BACK OF BOURKE

Remote back country. New South Wales slang.
Sydney J. Baker: A Popular
Dictionary of Australian Slang,
Melbourne, 1943.

BACK OF BOURKE:
A STUDY OF THE APPRAISAL AND SETTLEMENT OF THE SEMI-ARID PLAINS OF EASTERN AUSTRALIA

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DECLARATION

This thesis embodies original research conducted by the author in the Department of Geography, Australian National University, between March, 1960, and October, 1962.

R.L. Heathcote

EXPLANATORY NOTE

This study comprises two volumes, the first containing the text and select bibliography and the second the notes to the text, together with the appendices, tables, and figures. This format was virtually dictated by the nature of the study and a word of explanation is necessary.

Many of the notes to the text, while essential to the verification and explanation of the argument, were too lengthy to be inserted at the foot of the relevant page without considerable disruption of the continuity of the narrative. The length of the period of study also meant that many of the tables and figures had relevance to widely separated portions of the text and, again, insertion in the body of the text would have involved some disruption of the narrative. In order to reduce this disruption to a minimum, the notes, tables, appendices, and figures were removed from the text and bound separately.

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INTRODUCTION

INTRODUCTION

The nineteenth century European invasion of the world's temperate grasslands brought the prospective settlers into contact with novel environments, adaptation to which imposed severe strains upon traditional techniques of land use and traditional appraisals of land quality. The eventual settlement of these lands was achieved only after considerable modifications had been made to those techniques and appraisals and several studies have been made of the processes of modification in North America, particularly in connection with the development of farming on the Great Plains.[1] In such studies, the emphasis has been upon the development of land for agriculture, pastoral land use has been regarded as only a temporary precursor to eventual cultivation. Yet there remain today extensive areas of the drier temperate grasslands from which agriculture is still excluded and where the dominion of the herdsman is unbroken. Some studies have been made of the sequence of settlement in such localities,[2] but little effort has been directed towards understanding the mental processes involved in the physical adaptation of traditional techniques and concepts. Too much stress has been laid in academic as well as popular literature, upon the conflicts

between the farmer and the herder, and between the farmer and his environment; not enough consideration has been given to the initial conflict between the herdsman and his environment. This thesis, therefore, is a contribution towards restoring the balance for a portion of the plains of eastern Australia.

A study of the pastoral occupation of the plains in eastern Australia is concerned with the evaluation of the environment as a place in which to make either a living or a fortune, depending upon the ambition and means of the settler. Evaluation of the environment implies geographical knowledge; in studying one we shall be effectively studying the other. The study of geographical knowledge has been defined by John K. Wright as "geosophy" and his definition serves as the key to our investigations:

> Geosophy ... is the study of geographical knowledge from any or all points of view. To geography what historiography is to history, it deals with the nature and expression of geographical knowledge both past and present -- with what Whittlesey has called "Man's sense of [terrestrial] space." ...Taking into account the whole peripheral realm, it covers the geographical ideas, both true and false, of all manner of people -- not only geographers, but farmers and fishermen, business executives and poets, novelists and painters, Bedouins and Hottentots -- and for this reason it necessarily has to do in large degree with subjective conceptions. 3

Examination of the historical sequence of geographical knowledge is a refinement which Wright termed "historical geosophy" and it is this aspect which will concern our investigations.

The original intention was to concentrate upon the evidence of changing knowledge and evaluation of the environment, particularly the data of land appraisal for taxation purposes; the usefulness of such materials had been demonstrated in previous work on agricultural land appraisals on a portion of the American Great Plains.[4] Equivalent data for a study of pastoral appraisals in Australia were available in the form of rent assessments and estimates of stock carrying capacities over virtually a century of occupation. However, such a technique assumes the existence of adequate studies of the sequence of settlement, the details of which are an essential background to any study of the mental processes behind such settlement. In the work on the Great Plains these studies existed and could be referred to, in Australia they did not exist. As a result, a considerable portion of the effort had to be diverted to the establishment of the sequence of settlement on the plains before attention could be returned to the main theme. The temporary loss, however, was made up by the extent to which the facts of settlement were

seen to bear out hypotheses established initially from the data of land appraisals alone.

In the formulation of the scope of this study there were several prerequisites. The first was a semi-arid environment within which pastoral occupation had remained dominant throughout the history of settlement. In such an environment, removed from the competition for land use found in localities more favourably watered, we might expect to see revealed the essential character of pastoral operations. If such an environment could include areas where different political controls were exercised, their effectiveness might be examined; and finally, if in that environment documented pastoral occupation had existed over a sufficiently long period of time, we might hope to assess the importance of any technological change upon land use and appraisal. Such conditions were fulfilled on the plains of eastern Australia.

The method of study was to proceed from the general to the specific, from the general concepts of the semi-arid plains to the more specific details for a portion of those plains. In part this was enforced by the lack of prior detailed work on the history of settlement and the need to check the general beliefs concerning this settlement against the facts for a specific area, but the method was

also adopted in order to see to what extent the general concepts of the plains environment coincided with detailed local experience. Such a method involves some built-in repetition where the coincidence of opinions and experience was good, but sufficient contrasts were found during the investigations to justify its use in this study.

The locale of the investigations in eastern Australia is shown in Figure 1. For the survey of the basic development and appraisal of the semi-arid plains, which forms Part I of the thesis, we shall restrict our attention to the western portions of New South Wales and Queensland. Here, fringing the arid interior, our present knowledge distinguishes a transition zone, where light rainfall combined with high insolation have produced a semi-arid vegetation of alternate grassy plains and open woodlands. Despite their proximity to the desert interior, these low plains, falling gradually to the west and south, are watered intermittently by streams rising in the higher and more humid eastern rim of the continent. So small, however, is the slope from east to west across the plains, that surface drainage is rapidly lost through seepage and evaporation; of far greater importance to continued settlement have been the subterranean water supplies seeping westwards from the intake beds on the eastern rim of the

artesian basin. Only after heavy tropical rainstorms in the head streams, do flood waters in the surface drainage systems reach either the Darling and Murray river system or the interior drainage basins around Lake Eyre. Although there are occasional relic features of ancient landforms, such as low flat-topped ridges, the bulk of the mantle rocks and soils owe their origin to relatively recent geomorphological processes, the exact nature of which is incompletely known at present.[5] Extensive flood-plains, "prior stream" systems and highly localised areas of interior drainage make up a complicated terrain where low relative relief tends to obscure significant contrasts in country.

The Warrego country itself, which we shall examine in Part II, occupies a central location in this transition zone, astride the New South Wales-Queensland border and the flood-plains of two large northern tributaries of the Darling River, namely the Warrego and the Balonne. The most recent studies have distinguished at least three different types of terrain and their distribution is plotted on Figure 2. The black soil country forms extensive alluvial grassy plains between watercourses fringed with coolabah (E. coolabah) and black box (E. bicolor) woodlands. In the dry months the soils crack and crumble

to a fine powder, while in the summer downpours an impassable grey clay quagmire rapidly forms. Most of this country, in fact, is inundated by the highest floods. Land above the flood level is distinguished as red country, from the lighter colour and texture of the soils, which range from medium textured chocolate loams to coarse yellow and red sands. The soft red country generally fringes the black soil plains, being slightly higher and carrying a thicker if lower stand of woodland, chiefly scrub timbers such as gidgee (Acacia cambagei) and brigalow (Acacia harpophylla), with less open grassy plains. Where old dune sands or "prior stream" beds remain, low sandy rises dotted with pines (Callitris glauca) or ironwood (E. melanophloia) and spinifex (Troidia mitchellii) break the monotony of the level plains. In the west of the Warrego country is the hard red terrain and stony limestone and sandstone ridges, where the soil is a thin veneer, red ochre in colour, often shot through with small lateritic pebbles and carrying a thick but low scrub woodland of mulga (Acacia aneura). The contrast between these types of country is quite marked on the ground and has been a major factor in land appraisals over the past century.

The exposition of the appraisal of the environment, however, as Wright has pointed out, takes many and varied forms, and for our investigations a wide range of sources was consulted. Ideas and opinions were culled from personal interviews and memoirs, from newspapers and government records, from field observations and private papers. Wherever possible, and despite certain reservations on their usefulness, statistical data were incorporated. For many of the sources however, there was no statistical backing and no reasonably objective yardstick against which they could be measured. The evaluation of these sources, therefore, formed a major section of research and the reconciliation of the verbal and literary opinions with such statistical evidence of the subjective concepts as was available in the form of rents and stock carrying capacities was a major problem. Despite these obstacles, however, the thesis remains an attempt to study subjective concepts, an attempt to uncover the appraisal and settlement of a semi-arid environment by Europeans and their descendants, a study in the continued pastoral occupation of a portion of the world's temperate grasslands.

PART I

THE APPROACH TO THE INLAND PLAINS

PART I

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INTRODUCTION

The first crossing of the Blue Mountains in 1813 was an event of major significance for the young colony on the coast of New South Wales. At last the landward barrier had been broken and beyond stretched apparently limitless country for colonisation. Speculation and facts mingled freely in the appreciation of this new locale for settlement and to examine that appreciation, we shall consider the evidence in two parts. The first, Chapter 1, concerns popular concepts; the second, Chapter 2, official ideas. The distinction between these two facets of the general knowledge of the inland plains is a fine one, since both leaned heavily upon each other for their information. Popular ideas, for example, were derived in part from the official publications and reports of exploration, and official policy often relied upon investigations which derived their evidence from the opinions of experienced individuals. Yet the distinction existed and we must recognise the two, possibly different, visions of the plains.

The development of these separate concepts of the plains environment is examined chronologically, and we may recognise

a significant break in the continuity of that development at approximately mid-nineteenth century. For convenience, the political watershed of 1856 was adopted as representing the dividing line between knowledge derived from the application of "foreign" standards to local conditions and knowledge derived from local and unique experience. The establishment of representative government coincided with an apparent and logical transformation from a "colonial" to an "autonomous" view of the Australian environment, a change particularly evident in the approach to the inland plains.

CHAPTER 1

POPULAR CONCEPTS OF THE INLAND PLAINS 1813-1956

1) PROBLEMS OF INTERPRETATION

> There is a mystery hanging about the geography of Australia, which I venture to say has never had a parallel in any other country, and which is enough to excite the most extravagant curiosity in those whose studies have led them to a contemplation of the varied surface of our beautiful planet.
>
> Maslen, 1830, p.133.

One of the first questions which prospective migrants and capitalists in Britain must have pondered early in the nineteenth century was, "What can we believe about Australia?" The question was not, "What do we know?" for there were many descriptive accounts available, but rather "What can we believe?" since there were as many different versions and interpretations of the facts as there were accounts. The Colonial Government was itself in difficulties:

> The frequent accounts which we from time to time receive from New South Wales have ever been, and they continue to be, of so contradictory a nature with respect to the concerns of that remote Colony, that the Government here must find itself at a loss how to form any correct Judgement respecting them. 1

For the laymen, the facts were eloquently hidden as late as mid-century; Smith prefaced his prospectus for intending migrants in 1849 with the comment:

> There is no colony about which the statements chiefly of interested persons have been so contradictory and perplexing....Land companies, book makers [sic], large colonial capitalists, disappointed emigrants, settlers in rival colonies, have conspired to confound and bamboozle the public mind. 2

The contradictions, however, lay not only in the interpretations placed upon the facts by "interested persons" but also in the facts themselves. The actualities of the Australian scene were unfamiliar to the European observers; being unfamiliar, they were often described in unsuitable terms because the descriptions were either inadequate or they communicated a false impression of reality. This was the basic problem of the interpretation of Australian conditions as a whole and the inland plains in particular. In fact, the problem had two parts, the first being a question of aesthetics and the second of semantics.

A) Aesthetics

The initial appreciation of the landscape of eastern Australia was, obviously enough, in British terms. Evidence of such an appreciation by the early landscape painters was

noted by Collier in his study, The Pastoral Age in Australasia:

> The pictures of Chevalier and Von Guerard are said to have no atmosphere -- at least, the luminous Australian atmosphere is conspicuously absent. The trees, the mountains, the plains, even the skies, are painted heavy and dark, which they seldom are. The Bush is "stern and funereal", as it was to the first novelists and poets -- Marcus Clarke and Charles Harpur, whereas, in literal truth it is commonly flooded with sunshine. Homesick exiles, they had missed its characteristic note. 3

Bernard Smith, surveying Australian art since 1788, commented in 1945, "charges that the colonial water colourists were unable to paint Australia in an Australian way are beside the point." Such men were all born in England and "painted for exiled Englishmen."[4]

Not until 1885 and the "plein-air" or Heidelberg school of painting (founded by Tom Roberts), did the Australian artists begin to appreciate the unique qualities of their landscape.[5] The contrast in attitudes is illustrated by two plates in Smith's book. The first, "Waterpool at Coleraine" by Louis Bovelot (Plate 41), falls into Smith's "Academic Period" (1863-1885) and is a heavy shadowy scene reminiscent of the Romantic Period in European Art - say Turner's "Crossing the Brook" or Theodore Rousseau's "Pool on the Edge of a Wood." The second, "Tranquil Winter" by Walter Withers (Plate 42), falls into Smith's "Australian Impressionist Period" (1885-1913) and is a bright and

clear rural scene in the mode of the "traditional" Australian landscapes of Sir Arthur Streeton and Hans Heysen. Prior to the "plein-air" school, the landscape artists do not appear to have been painting what they actually saw, nor even what they thought they saw, but merely what they would have liked to have seen. One suspects that this failure to communicate reality was parallelled in literature where the use of analogy was also a basic tool.

Whereas the artists could, by skilful use of their imagination, conjure up a mythical Australian Landscape possessed of beauty by European standards, the writers had a more difficult task. They could rely less upon their imagination since they were supposedly dealing with the facts, and were forced back upon description by analogy. As a result the Australian conditions had a lukewarm treatment. Atkinson, describing the colony in 1826, found portions of the "open forest" west of the Blue Mountains "pleasing to the eye, having a beautiful park-like appearance",[6] but the extensive plains of the interior "destitute of timber, and covered with grass" were a depressing prospect:

> The silence and solitude that reign in these wide spreading, untenanted wastes, are indescribable, and must have to be witnessed to enable anyone to form a proper conception of them....nothing meets the eye of the traveller, with the exception of a few solitary Emus, to enliven the monotony of the dreary expanse. [7]

"From contemplation of this vacancy and solitude," he went on, "the mind recoils with weariness," seeking relief in the future civilization of this wilderness.

The monotonous repetition of natural phenomena, so early established as one of the imperfections of the Australian interior, remained for many years one of the major factors in any consideration of the aesthetics of the inland. It had its practical advantages, since, as the geologist Jukes pointed out, observations "made across one line of country would thus be applicable to great tracts",[8] but it had a depressing mental impact upon many observers. At the turn of the century, the botanist Cambage while admitting that the scrublands of western New South Wales possessed a "weird charm", still described what he saw as "a great expanse of wilderness".[9] The monotony of the landscape came to be accepted as one of its less attractive characteristics and when allied with the practical problems of settlement of the plains, was a reoccurrent source of demoralisation.[10]

Parallelling the artistic awakening noted by Smith was a new literary exposition of the inland. This period of re-exploration and re-discovery of what came to be recognised as unique features, has been termed that of "The Balladists" and given the dates 1878-1940 (although the peak of development

was reckoned to be in the 1880s to 1890s).[11] On the one hand the new vision of the inland was being translated into oils and watercolours; on the other into poetry, the short story and the novel. The grim monotony, the solitude and the insignificance of man in the vast sweep of the plains was replaced by an awareness of contrasts, of the power and strength of man "outback". Even Henry Lawson, who stressed the old concept of an antagonistic "bush" in terms of drought and death, gave to his characters a humour which was more than just an ironic fronting of Fate, but rather sheer power of personality in the face of the paradoxes of their environment.[12] In this he was at one with his rivals who had a fresh and brighter vision of the scene. A.B. Paterson saw beauty and life in the forbidding plains and though Lawson objected,[13] there were many to follow Paterson's lead in the early years of the twentieth century. Drought and death were put back into perspective.[14]

The new ideas, however, did not replace the old completely, but rather added factors to be considered in any overall view. In some ways this represented a balancing of the two extremes of wilderness and garden, between which most ideas were ranged. The western scrublands for example, which Cambage in 1900 described as a wilderness, had been

credited with "a most agreeable and picturesque aspect" in 1897.[15] Opinions, apparently, changed with the seasons. Put simply, drought scoured a wilderness, while abundant rains watered a garden.[16]

B) Semantics

The appreciation of the qualities of the inland plains presented problems not only in terms of the mental attitude to the land but also in the techniques of its description. The vocabulary of the colonists was either insufficient or too inflexible to cope with the different conditions facing them. As a result old terms were used erroneously and local terms were adopted without adequate understanding of their real meaning. Some of the early writers presented their problems to their readers, but many gave no indication that the features which they described might bear little relation to features so described in Europe or elsewhere.

Logically, the first descriptions used British or European terms and standards, comparing and contrasting the facts within a rigid and preconceived framework of semantics. Maslen, writing in 1827, noted that many writers on "Australia, Austral Africa, and Equinoctial America, have condemned the sandy soils of those countries as being not only unproductive, but arid and sterile."[17] Their reasoning was based upon

their previous "foreign" experience, for "having acquired their agricultural and horticultural knowledge in England, they judge the soil of every other land by that in England, which they take as the standard of comparison." Maslen himself disagreed, suggesting piously that "An All-wise Providence has adapted every soil to its climate all over our planet", and salvation lay in irrigation.[18]

The adaptation of "foreign" terms posed problems to all literary descriptions, from the poets to the men of science. The poet Charles Harpur, early in the nineteenth century, saw his task "to translate the landscape and life of his country into their own proper terms, which meant using local words and avoiding English association." His disciple, Henry Kendall, found that he was "forced to retain the English names of scenic features -- 'dell', 'glade' 'glen', 'brook', yet he also found apt descriptions."[19] For the scientists, Jukes warned his readers in 1850:

> In speaking of rivers and lakes in Australia, we must always divest ourselves of our European prejudices, of taking the presence of water as a necessary consequence. The rivers and lakes of that country, only contain water as the exception, not as the rule. They are the places occupied by the drainage of the country, whenever there is any moisture to drain, that is after heavy and long continued rains. 20

It was a "well known and peculiar feature of Australia", Maslen had written in 1827, that most rivers formed merely

a "chain of ponds". Jukes agreed, pointing out that contrary to European experience, the Australian rivers decreased in volume along their lower courses, the continuous flow of the upper reaches being replaced by waterholes spaced at ever widening intervals. Although this difference was to have considerable importance in influencing the earliest ideas and settlement of the inland,[21] not all the men of science recognised its existence and in 1883 Wall's Manual of the Physical Geography of Australia could still define a river as the "largest form of running water".[22]

The adoption of local terms to replace those imported with the settlers was principally in connection with the description of the physical features of the landscape. One of the most covenient ways to examine the introduction of these new and old terms is by means of a table of definitions, where the chronological development of meaning and usage can be indicated. Such a table will be found in Appendix 1 and the following brief discussion is based upon it.

The greatest use of aboriginal terms was in the descriptions of natural drainage features, where European terms were perhaps of least value to the topographer. The first use of such terms, however, is difficult to establish.

The British creek was one of the few "foreign" terms to be adopted and its meaning changed significantly from the original tidal inlet concept. Aboriginal terms were adopted for certain landforms and wherever "foreign" terms were used, their meaning changed, in the case of plain from purely a definition of altitude or relief to one involving vegetation. The description of vegetation forms had to rely completely upon imported terminology and again, modification of meanings resulted. Aboriginal words were only adopted for the common names of species and not for the actual morphology of the vegetation.

2) THE COLONIAL INHERITANCE 1813-1856

The manner in which knowledge of the interior was interpreted in the years prior to 1856 reflects the inheritance of "foreign" ideas as strongly as do the techniques of description. Although ideas of the character of the interior varied considerably, from "level sandy deserts or rocky and barren tracks" to a "vast lake or Mediterranean Sea",[23] the reasoning behind such divergences had a common origin in previous "foreign" experiences. The optimists and the pessimists, for all their differences, appear to have had much in common.

A) "A broad oasis spreads its vesture fair"

From the beginning there were the optimists. W.C. Wentworth, drawing upon the evidence from one of the first official expeditions beyond the Blue Mountains in 1817, saw in the impressive headwaters of the Macquarie River Australia's Mississippi of the West.[24] Even Oxley's 1818 Expedition, which traced down the Macquarie River until it was lost in swamps, failed to deter Wentworth who considered that Oxley had either missed the mainstream of the river or had been on the edge of a lake, from which (taking his example once again from the New World) the great river would flow on, like the St. Lawrence, to the sea.[25] His lead was followed up in 1830 when Maslen's delightful fantasy, The Friend of Australia, appeared. Wentworth's great river was renamed "Great River or Desired Blessing" and mapped as rising with its tributaries, the Macquarie and the Namoi rivers, on the western slopes of the Blue Mountains and flowing across the inland plains or "The Dead Level" to its mouth in the "Australian Delta" on the northwest coast.[26] As he pointed out, the river's course was pure conjecture but he was convinced of its existence,[27] and bearing in mind the limited contemporary knowledge and the analogies of the Niger and Ganges Rivers

which he used, his conclusions were not so fantastic as might at first appear. Certainly, Maslen was not alone with his illusions. The explorer Sturt noted that his expedition of 1828 along the Macquarie River was despatched at a time of drought in order to be able to pass the supposed swamp or lake found by Oxley and trace the course of the river beyond.[28] In the previous year a private expedition had attempted to discover a supposed lake west of Bathurst[29] and, in 1828, there were further reports of an "interior sea, where the water is salt, and where whales are seen to spout!"[30] "Vague accounts of 'a great river beyond Liverpool Plains', flowing north-west" were current in 1831[31] and Wentworth's "St. Lawrence" was still being looked for in 1833.[32]

The publication of the results of the official exploration of Sturt and Mitchell discouraged most of the more blatant optimists,[33] and in 1841 Governor Gipps, summing up popular knowledge, noted that "the expectation of finding a large river or an inland sea, sufficiently near to be of any use to our settlers, has altogether vanished; and, consequently, the desire to penetrate into the interior is less ardent that it was."[34] Yet hope lingered on and as late as 1846, the Moreton Bay Courier, while ready to foresee the Darling River as Australia's Mississippi, was

still looking for an equivalent river to the north.[35]

B) "Yon barren Desert's broad and drear expanse"

While early exploration and conjecture inspired some to predict a bright future for the interior, other writers were disturbed by the prospects. The pessimistic view may have had its origin as early as 1823, when Commissioner Bigge, investigating the condition of the Colony, suggested that Oxley's expeditions had found "two or more tributary streams taking their course in the highest ridges of the Blue Mountains, within fifty miles of the sea coast," and which were "lost at a distance of 300 miles in an opposite direction, by diffusion over an immense portion of the interior." [36] By 1830, there were fears of an interior desert:

> From the sterility of the country ... and from the sirocco winds...it is extremely probable that the interior, or a large portion of it, is of a barren, sandy nature, and that further adventurers may be somewhat disappointed in their expectations of finding so rich and productive a country as they have imaged to exist there. 37

The concept of an inland sea had become "in the highest degree impossible" by 1850 and the plains of the Murray and its tributaries seemed to be "characterized by barrenness rather than fertility." [38]

In 1851, Henderson's "Map of New South Wales" had labelled the district between the Lachlan and the Murrumbidgee rivers as an "Arid Desert" [39] and the idea of a "Great Australian Desert" on the inland plains was well established by 1854, when Gardner suggested a location in northwest New South Wales with a length of about seven to eight hundred miles and a breadth of four to five hundred miles east-west.[40]

Apart from the possibility that a desert, however defined, occupied the remote interior, the fringing plains closer to the settled coastline were faced with an equally imposing problem of a dry climate, which threatened not only to restrict any hopes for agriculture but to place a burden upon any pastoral occupation. Hall suggested in 1831 that the Australian climate passed through seven year cycles with the latter half of each cycle droughty [41] and the experiences of Sturt and Mitchell suggested that during a drought, most of the potential stock feed on the plains was killed off and swept away.

Drought also posed problems in communications since a dry climate held out little hopes for internal navigation. Atkinson saw the lack of any large navigable rivers as the main drawback in the Colony, since the "large tracts of fertile plain in the interior are in consequence inaccessible

to water carriage."[42] The "Great River or Desired Blessing" of the optimists was not only to provide water for the settlement along its banks, but a mode of conveyance for the produce of the interior. With the increasingly pessimistic view of the existence of such a river, hopes of agriculture faded and pastoral development came to be recognised as the only alternative.

The pastoralist on the inland plains, however, would himself face many problems inherent in the dryness of the climate. The lack of easy communications and distance from markets and towns would make the burden of a solitary pastoral life even more intolerable,[43] and to combat droughts, "ennui, and the solitude of the bush" the squatter would need to possess a reserve not only of material resources but of mental tenacity.[44] Occupation of the plains could be costly both in men and materials.

3) THE "COLONIAL" EXPERIENCE 1857-1956

Responsible Government for New South Wales in 1856, the separation of Queensland as a Colony in 1859, and the ensuing flood of pastoral settlement onto the inland plains did not serve to consolidate ideas about the character of the interior. The experience of settlement appears to have maintained the dichotomy between Samuel Prout Hill's

"broad oasis" and "barren desert." [45] Amid the strongest floods of optimism were always rocks of dissent: set in the dusty plains of pessimism there were permanent oases of hope.

The importance of droughts as influences upon concepts of the inland plains prior to 1856 has been hinted previously, but after that date this becomes more obvious, partly because the records of droughts are more detailed but also because settlement and consequently experience had extended into the areas more liable to the effects of drought. It is therefore advisable to have a reference to the periods when drought was affecting the interior plains, so that any parallel trends in the concepts may be traced. Such a reference will be found in Table 1, "The Occurrence of Droughts on the Inland Plains." With this as background, the facts can be examined.

The initial rush to occupy the plains in the early 1860s petered out in the drought of 1865-70 and once again, the old problem came under review. Allen wrote in 1870:

> The long continued and painful droughts are a very great drawback to the progress of Australia, and until some plan has been formed to partially provide a remedy for these fearful visitations, by storing the water, which, during the wet seasons, runs swiftly away to the sea, the settler must be exposed to very serious loss. [46]

He was considering the pastoralist, but for the farmer on the plains there was still no hope without irrigation.[47]

The question of irrigation of the interior plains, however, was being investigated at this time. Shortly after Allen had called for plans to store the wasted waters, Ferdinand von Mueller had forecast the effects of such storage upon the Murray Valley:

> The lagoons may then be lined and the fertile depressions studded with the date-palm; fig-trees, like in Egypt, planted by the hundreds of thousands, to increase and to retain the rain will then also have ameliorated here the climate. [48]

In 1881, F.B. Gipps pressed for the development of water storage and distribution facilities in the interior of New South Wales,[49] and even if surface storage proved inadequate, there was a growing conviction that further supplies could be obtained from underground sources. In 1879, the New South Wales Meteorologist, H.C. Russell, had forecast "that beneath the surface of our flat country there is an unlimited supply of good water." [50] His optimism was rapidly substantiated by the artesian supplies discovered in northern New South Wales and western Queensland in the early 1880s, while the possibilities for irrigation were considered by a Royal Commission from 1885 to 1887. [51]

Not only would additional water supplies combat drought in the areas already occupied by the pastoralists' herds, and offer hopes of agriculture, but fresh areas would become available for occupation. The country away from the rivers and creeks, which had been useful only after heavy rains had left some natural water upon it, could now be brought into year-round use. The digging of small reservoirs or "tanks" and dams to catch the surface run-off, allied with the drilling of artesian wells, would open up areas previously untouched or rarely used. In 1882, development was under way:

> The well-known back-blocks, which at one time were regarded as nothing better than waterless deserts, are by enterprise and the expenditure of capital being made as capable of carrying stock as many well-watered runs on the frontages of creeks and rivers. 52

Capital and ingenuity were at work in the inland and hopes for the future were rising, despite the current drought.

The twenty years from 1882 to 1902 did not fulfil the optimism in which they began, for while the pastoral industry on the plains, benefiting from the inflow of capital, the provision of watering facilities and extension of the railways, reached the peak of its expansion, by 1901-1902 drought had brought ruin once more. Capital and ingenuity were powerless in the face of nature -- or so it seemed at the time.

In 1901, the Sydney Morning Herald carried an article by the explorer Favenc. As the title "Unfulfilled Dreams of Australia" suggests, the general theme was one of disillusionment. He examined the concepts of the interior from Wentworth's river to the Great Australian Desert and concluded that, "In one respect all these dreams of the early days resemble one another. There seems to have been a refusal to accept the possible idea of Australia being what it really is -- a land of magnificent monotony." [53] The magnificent monotony became in 1906, with Gregory's book, the "Dead Heart". In a plea for the recognition of the Australian Desert as a permanent feature, he complained of the refusal by the general public to accept the fact that settlement was unlikely to expand further into the interior. [54] Even the maintenance of existing settlement would be a problem in the future if the current wastage of resources, particularly the subterranean waters, continued unchecked. A year later, Gordon reverted to the optimistic view and saw in irrigation and American dry-farming techniques the salvation of the inland. For him, the interior was not a "Dead Heart" but "Not Understood", an unlimited frontier for expansion.[55]

The controversy flared up again in the 1920s, when once again the "scientists" were ranged against the "boosters"

The centre of the controversy was the Professor of Geography at Sydney University, Griffith Taylor, whose counsels of caution were vigorously opposed by various authorities who saw a twentieth century "broad oasis" in the Professor's "barren desert". From 1921 to 1927 the controversy was carried on through the medium of the newspapers, the limited development concepts of Griffith Taylor coming under fire from those writers who foresaw a rosy future for the inland plains, if only capital for development would be made available. Whatever the rights or wrongs of the dispute, capital was not made available and the harangues of the "boosters" went unanswered.[56]

With the cycle of drought once more upon the inland in the late 1930s and early 1940s, counsels of caution took the stage. There were fears that the inland plains would degenerate into an Australian version of the American Dust-Bowl, and for a vocal minority, the only solution appeared to be large-scale irrigation schemes to reclaim the "desert". The schemes were ingenious, if impracticable,[57] and the unofficial planners took advantage of the wartime mental climate to propose strong centralised controls for their projects.[58] Yet even so, their propaganda was largely ignored and improved seasons and economic conditions in the early 1950s removed, if only temporarily, many of the causes for alarm.

Such is the outline of the popular vision of the inland plains over the hundred years from 1856. The question remains, what were the trends of thought revealed by these facts and what was the significance of these trends? We have discussed how the character of the plains impressed itself upon the popular imagination; it now remains to discuss how, in turn, settlement was thought to have affected the character of the plains.

4) MAN AND NATURE 1813-1956

The descriptive accounts of the inland plains from the early nineteenth to mid-twentieth centuries were not merely tabulations of a static body of data, but were recognised to be surveys of conditions changing in time. The changes were seen not as cycles of Nature but "linear" modifications resulting from human action.

The controversy was basically in terms of the pastoral occupation of the plains, since, despite the activities of the optimists, agriculture was rarely given serious consideration. With this in mind it is obvious that any increase in the stock-carrying capacities of the plains resulting from settlement would be viewed as an improvement in conditions and any decrease as a sign of deterioration. The relationship to be considered was not, in fact, Man and Nature but the Pastoralist and Nature.

While the impact of settlement upon the character of the plains was never denied, the precise nature of that impact was vigorously debated over the years. Broadly, the protagonists formed two camps, one suggesting an improvement and the other a deterioration of the natural, i.e. pre-white settlement, conditions. The advocates of improvement, for example, stressed that the patter of tiny hooves consolidated the soil, improved run-off and filled the reservoirs. The pessimists agreed, but added riders that the hooves were cleft; thus, while the soil was consolidated it formed hardpan, improved run-off meant greater soil erosion and the reservoirs were indeed filled, but with silt.

The claims for increased stocking capacities appear to have originated in interested parties whose ideas would receive encouragement or who would benefit materially from such claims should they be substantiated. In 1876, George Ranken claimed that "the consequence [of settlement on the plains] is nearly always more grass and more water -- the pasture thickens, dry creeks fill, and swamps become standing lagoons." [59] That same year, Reid maintained that:

> The soil of the plains is loose, and in very dry weather the grass nearly disappears; but as the country becomes stocked the tread of the animals binds the surface; the grass acquires closeness and strength, and the saltbush gives way to the characteristics of the slopes [i.e., improved pastures]. As a consequence, the rain that falls begins to form watercourses, waterholes become creeks, and the streams increase in volume. [60]

Both men, however, were hoping for improvement since increased stocking capacity would enable a denser pastoral settlement and the break-up of the large pastoral holdings, the existence of which both men opposed. Their sentiments were continued by Collier[61] and Shann, who made the suggestion that "the Riverina of the 'forties was more of a desert than were the lands beyond the Darling a generation later." [62]

The ringbarking of timber to improve the grass cover was claimed to increase the available water supplies [63] and such small scale cultivation as was attempted might prove to be only a beginning of improved conditions:

> There is good reason to believe the old agricultural saw "rain follows the plough" to be a good one, and that whispering cane fields and billowy breadths of wheat or oats, well kept vineyards and orchards or even the humble potato-plot and melon ground are as effective agencies for tempering heat and precipitating moisture, as the leafy jungle or the hill-top bristling with pines. [64]

Yet the same author, on the same page, listed five aspects in which the environment had deteriorated since settlement began. First came the "extirpation" of plants and animals which were adapted to local conditions; second came the removal of checks on the natural increase of others and the introduction of new, often "mischievous" kinds; third, ringbarking whereby "scores of thousands of square miles

have already been ruined for genuine settlement"; fourth, the silting of the rivers, enlarged floods from increased run-off; and finally the opening of new erosion channels by animal tracks and unmetalled roads. Deterioration went hand in hand with improvement, and the final reckoning was disputed.[65]

Any examination of the ideas on the effect of settlement upon the environment is further complicated by the fact that the effects were seen to vary with the seasons. The evidence for deterioration was always most abundant at times of drought; the evidence of improvement was obvious during the better seasons. It is not surprising therefore to find that the drought of the last years of the nineteenth century was made the occasion for serious consideration of the claims that the environment had suffered at the hands of the pastoralists.

An article in the Sydney Morning Herald in 1899 appears to have sparked off a public outcry for the investigation of conditions in the western portion of New South Wales, similar to that carried out in Queensland a few years earlier.[66] The article painted a gloomy picture of the inland plains:

> It is invariably monotonous, even though it presents great contrasts, and not infrequently it is repellent. It is the land of drifting desert sand and stone-strewn ridges, of open treeless plains, and dense impenetrable scrubs. It is the home of

> the treacherous mirage, of disappointing salt lakes and fleeting waterholes, of trying winds and exasperating dust-storms. It is the stronghold of the rabbit and the most frequent victim of the drought. It is, too, just now a land of buried yards and fences, of abandoned holdings and deserted homesteads, of broad acres, but tragically shrunken flocks. 67

The main concern at the turn of the century was with the "buried yards" and "deserted homesteads", since these seemed to be stark evidence of deterioration of conditions. Apart from the findings of the "Royal Commission to Inquire into the Condition of the Crown Tenants", several other studies considered the problems. The scientific investigations of the Government Botanist and the Chief Commissioner for Western Lands in New South Wales were made public[68] and their findings, that erosion was active as a result (in order of importance) of the drought, overstocking, the rabbits and the prevailing westerly winds, generally echoed popular sentiments.

The deterioration of carrying capacities was considered again in the 1920s[69] and following the droughts of the 1930s. In 1937, Radcliffe's study of the southwest portion of Queensland claimed that in these semi-arid areas, "the major problem of the future is not one of increasing human settlement ... but rather of preserving on a tolerable and profitable basis what settlement already exists, and even, in places, of maintaining any settlement at all."[70] The first edition of Land Utilisation in Australia stressed

the need for care to prevent retrogression of settlement in the interior and the early 1940s saw strong propaganda for the conservation of resources already supposedly worn down by misuse.[71] The better seasons of the early 1950s, however, as noted previously, took away much of the appeal of such propaganda.

What are our conclusions? The bulk of the evidence suggests that the Man-Nature, or Pastoralist-Nature, relationship was seen in a limited context. The effect of pastoral occupation upon the character of the inland plains was seen as the effect of several variables upon a relatively stable mass -- the character of the plains at the time of the arrival of the while men. This is the logic behind the concept of natural balance and its upset by the blundering fist of man, a concept summarised in 1892:

> Australia being for so long a period practically isolated from the other continents, and the conditions of the animal and vegetable life having been for so long a time constant and uniform, the vegetation then must have been in a state of balance, or, if any changes were taking place, they were small in amount and slow in action. 72

The balance on portions of the plains might be delicate and as Maiden put it, in a state of "unstable equilibrium", but it was still a balance and one which in this case could be even more easily disturbed.[73] Pick and Alldis devoted

a chapter to "The Balance of Nature"[74] and in 1948 the Minister for Conservation introduced Beadle's survey of the vegetation of New South Wales with the following, perhaps logical, development of the concept of natural balance:

> In my opinion, western erosion could be gradually minimised --if not entirely banished -- by the removal of all stock for a limited period and the eradication of rabbits, thus allowing mother nature to operate and exercise her beneficent influence. [75]

Remove the disturbing influence and the balance would be restored.

There seems to have been little acceptance for any ideas that the natural conditions might themselves be subject to changes. Even droughts were seen as the results of man's actions as late as the 1890s [76] and the recognition that they were natural occurrences was allowed to be swamped by the consideration of the exaggerated effects resulting from attempts to continue pastoral occupation during droughts. Change in Nature was occasionall accepted but the full significance of the concept was never realised.[77] As a result the contention that change was inevitable, and that deterioration might have begun without any help from man, received little backing. In this respect it seems possible that the popular concepts towards the inland plains may have reflected wider trends of thinking

throughout the Western World. Such a hypothesis, however, along with the examination of the changes in the environment of the plains must be considered later, following the survey in Chapter 2 of the parallel development of official policies towards the inland plains.

CHAPTER 2

OFFICIAL CONCEPTS OF THE INLAND PLAINS 1813-1956

The official concepts of the inland plains, those ideas and beliefs stemming directly from, or evidenced by, the actions and publications of the Colonial and State Governments, need to be examined independently of what have been termed the Popular Concepts since the two did not necessarily coincide and often were at odds with each other.

The details of the official concepts can be established from two main sources. The first represents the efforts of the official explorers and surveyors whose instructions and work offer valuable clues to the attitudes and reasoning which sent them out into the unknown. The second source is the legislation referring to land settlement. Such legislation, as reflecting contemporary attitudes to settlement, will reveal official knowledge of, and policy towards, the potentials of the plains. In a sense this second source represents action as a result of the discoveries of the first sources, but of course it represents more than that. To the experience of the explorers and surveyors was

added the inherited attitudes of a colonial government. The acceptance of local experience as the main criterion came later and even then the State Governments remained open to influence from relevant foreign sources, in particular the United States.

1) COLONIAL CONCEPTS 1813-1856

A) Exploration and surveys

a) Exploration[1]

The relevant official exploration of the eastern inland plains within the period 1813 to 1856 was undertaken by four leaders, three of whom, either at the time or subsequently, held the post of Surveyor General in one or other of the Colonies.[2] These were experienced men, but their experience initially lay outside Australia and for the most part they were unaccustomed to the conditions which faced them on the plains.

Each of the official explorations originated in the eastern coastal settlement of New South Wales and pressed westwards into the interior of the continent.[3] In effect, this was a progression from a humid towards an arid environment, from a fairly well endowed locality to less attractive country, and the experience of the deteriorating conditions was to have a long term influence upon official concepts.

The discovery of the inland plains in 1813, although the result of private exploration, was followed immediately by official efforts to verify the private discoveries and to estimate the potential of the new country for settlement. The surveyor Evans was sent back along the tracks of Lawson, Blaxland and Wentworth soon after their return and his favourable report encouraged the Colonial Government to send the Surveyor General, Oxley, on an initial traverse of the plains.[4]

Apart from soils, which promised an agricultural future for the plains, Evans had been impressed by the westerly flowing rivers which appeared in these upper reaches to be navigable. Oxley's discoveries, however, destroyed any official hopes of a navigable connection with the southern coast, for both in 1817, tracing the course of the Lachlan, and in 1818 on the Macquarie River, he was unable to advance beyond "low marshy country" and "country covered with reeds and under water." It is, therefore, not surprising to find that from his camp on the banks of the Macquarie River he wrote that his party seemed to be "in the immediate vicinity of an inland sea, or lake, most probably a shoal one, and gradually filling up by immense deposits from the higher lands, left by the waters which flow into it."[5] Before such an obstacle, his party could only retreat and that with difficulty.

In 1828, following an extensive drought, Sturt was instructed to attempt the passage of these marshes in the hope that navigation might be possible beyond them. He discovered a river - the Darling - but navigation would be possible only after high floods, when, as Oxley had suggested, connecting land transport across the clay plains would be virtually impossible. Discouraged by the ravages of the prevailing drought, lack of water and diminishing supplies, Sturt had to retreat. In the following year he was more successful along the Murrumbidgee and Murray rivers and was able to trace their course to the southern coast. From the river, however, he gained little impression of the pastoral potential of the country and his return was hastened by the threat of starvation.[6]

Mitchell, after a fruitless search for a river flowing to the northwest in 1830-31, did establish the junction of the Darling with the Murray River in 1834-35, but like Sturt he was unimpressed by the surrounding country and had to retreat from lack of supplies. In his case there was an added threat from the aborigines who had killed one of his men on the Bogan and were disputing his advance down the Darling River. The northern plains remained unattractive and although in 1846, he claimed to have found both a land and water route to the northwest coast for the trade with India,[7] his second-in-command, Kennedy, found that the

water route (Mitchell's Victoria River) turned south-westwards and was lost in the desert interior. Kennedy's return along the Warrego River ended with a race for life across "bare red sand".[8]

The apparent lack of success of most of this official exploration was as much the result of the explorer's instructions as the character of the country traversed. All the leaders were given precise instructions on their objectives; none were given a completely free hand to wander indiscriminately as best they could; they had a set goal which might or might not be achieved. In effect, therefore, there was an even chance of failure from the beginning and it is not surprising that both of Oxley's expeditions, the first of Sturt's and Mitchell's, and the first of Kennedy's expeditions were considered to be unsuccessful in the achievement of their objectives. These theoretical "failures" coupled with the physical difficulties of exploration on the plains, where water was scarce, where subsistence had to be largely on supplies carried by the expeditions themselves, and where the aboriginal population was either so few as to be unable to offer food or services or so hostile as to be a threat to the safety of the party, had a significant impact on official attitudes.[9] The reluctance to send out further expeditions and the resultant

occupation of much of the plains by settlers before official exploration is, in the light of these initial "failures", quite logical.

b) Surveys

Official knowledge of the plains did not have to rely only upon the reports of the explorers, the routine work of the Surveyor General's Department was extended to the plains soon after 1813. Such activity was limited initially to the settlements on the eastern fringes, but in 1847 the Surveyor General appointed surveyors for the inland plains beyond the limits of settlement. The intention was both to obtain general information on the character of the country and to assemble a geographical framework upon which the administration of the Orders-in-Council regarding the pastoral settlement of the plains could be effected.[10] The surveyors were to examine the country and to provide reports which:

> are to consist of geographical and physical descriptions of every part of the country within your district, its capabilities either for grazing or agricultural purposes; its geological character and whether there are any indications of the existence of precious metals or metalliferous ores, if so their situation and apparent extent. 11

They were also to note possible "halting places" and suitable locations for water and town or village reserves. The

emphasis was to be upon country not previously seen and the surveyors were criticised if they duplicated previous exploration[12] or proposed surveys of country beyond the limits reached by the explorers.[13] Maximum use was to be made of the available man-power and there could be no room for a dissipation of effort.

In their work on the plains, the surveyors faced the same general problems as the explorers, but in detail their task was more difficult. The explorers naturally took the line of least resistance across the country along the few watercourses and rarely ventured across the broad interfluves, where the country was more likely to be waterless. The surveyors, by contrast, were expected to traverse such areas to enable them to assess the potentials of their districts, and the physical difficulties of supplying their parties with food and water were considerable. Added to the problem of survival was the fact that their methods of survey had to be altered. Mitchell, as Surveyor General, had perfected the use of the new theodolites in the survey of the eastern mountains and coastal settlements, but triangulation had to be abandoned on the plains since vantage points were rare and the woodland, despite its open character, effectively blocked lines of sight. On the lower course of the Darling River, in 1848, Surveyor MacCabe was given permission to dispense with triangulation

and to rely instead upon a "feature survey", using the line of the rivers as reference, "these being apparently the only features in your district." Even artificial structures such as head-stations and stock-yards could be used for reference in the absence of natural features.[14]

Where triangulation had to be abandoned, distances could be measured only imperfectly and with a significant margin of error. Early explorers seem to have used the revolutions of their dray wheels, but where no wheeled vehicle accompanied the party they relied upon horse paces to supplement their astronomical observations of latitude.[15] The use of the perambulator (a wheel device towed behind a horse or a cart) seems to have begun at mid-century, when it was in use alongside the theodolite, or a circumferentor (a surveyor's compass on a staff), and chain.[16] In the former case, the theodolite merely served the purpose of a more efficient circumferentor for the angles of lines which were measured by chain. With the increasing demand for accuracy in the boundary surveys of pastoral holdings in the latter half of the century, the theodolite and chain came to be more widely used, but the low value of the plains prevented any costly grid surveys on the American system.[17]

A final problem facing the surveyors was the question of placenames. The adoption of aboriginal names was not encouraged since they were regarded as only ephemeral titles,

often changing from year to year and likely as a result to cause confusion to future surveyors. Once a name was adopted, however, it was to be retained regardless of its original meaning:

> Map names altho' derived originally from Aborigines are for the use of Englishmen, and once adopted it matters little what they mean, our use of them when they fit our mouths is to distinguish geographical features. 18

Any appreciation of the character of the country based upon local placenames would have been misleading even at this early date.

At mid-century, the official prospect of the plains was not inspiring. Leaving the highlands in the east, the surveyors had been forced to revert to the drudgery of chain and compass on what a popular writer had called the "Dead Level",[19] and exploration and surveys had been beset by difficulties, among which survival was one of the most important. In a region where navigation seemed limited, land transport would have to form the link with the coastal settlements and to maintain that link, adequate public reserves to prevent private monopoly of watering points would be necessary. The uneven distribution of water in fact emphasised the general character of the plains, which was one of unevenness and contrast rather than the uniformity

suggested by some of the popular writers. While large areas along the few watercourses were of open grassy woodland or "salsolaceous plains" (treeless country covered by low saltbushes) useful for stock-grazing, larger areas between the watercourses seemed to be varying degrees of deserts, without either water or feed for stock and often covered by impenetrable thickets of scrub.[20] In such an area there was little hope for agriculture even though the surveyors reported occasional successes.[21] The main hope for settlement came to rest upon pastoral occupation and even here, in the light of the limited areas available for pastoral use, there might be problems.

B) Legislation and Land policies

As the results of exploration and survey became known and accepted the settlers of New South Wales recognised that they were faced by an apparently boundless, if unevenly gifted, interior wherein they might graze their flocks if not sow their crops. To the Colonial Government, however, the prospect was not pleasing. The extent and uneven quality of the plains encouraged and required the widespread scatter of settlement on the pockets of superior land. No longer was there a natural fence, like the Blue Mountains, behind which settlement could be contained and

controlled from Sydney. In Britain also, where the whole question of colonial land policy was being debated, a substantial and increasingly influential body of opinion, seeing in colonization the outlet for the unemployed of Britain, who were to be settled as yeoman farmers upon the vacant Crown Lands of the colonies, was pressing for the regulated sale of those lands to finance emigration schemes.[22] Indiscriminate occupation of the waste or vacant lands by "squatters" would interfere with any attempts to sell the land in controlled circumstances, and both the Local and Home Governments were concerned at the possibilities.

a) Restricted occupation

Acting upon these fears, attempts were made to provide a legal barrier to settlement beyond the Blue Mountains. In September 1826 the Sydney Gazette published the description of the boundaries or "limits of location", set up by the Governor, within which occupation of land was permitted and police protection guaranteed, but beyond which settlement would not be legally recognised. The Nineteen Counties which formed this settlement area were defined in October 1829; within them the pastoralists had to be content with a leasehold tenure for six month periods at £1 per 100 acres.[23]

b) Controlled dispersion

A change in local policy appeared with the new Governor Bourke, and a situation arose where the Home Government, through the Regulations of Lord Ripon in 1831, was attempting a land policy which the local authorities opposed. Governor Bourke suggested that the fact of dispersion would have to be accepted:

> Admitting, as every reasonable person must, that a certain degree of concentration is necessary for the advancement of wealth and civilization, and that it enables Government to become at once efficient and economical, I cannot but avoid perceiving the peculiarities which in this Colony render it impolitic, and even impossible, to restrain dispersion within limits that would be expedient elsewhere. 24

The flocks of the "studmasters" would benefit from a lack of constraint, since they would be able to forage over the whole range of natural grasses and as a result might be better able to withstand droughts.

Bourke's successor, Gipps, maintained the local position and protested against the attempts by the Home Government to impose Wakefieldian ideas upon the settlement of the plains. Conditions in Australia were not the same as those in other colonies and land policies could not be indiscriminately applied to all without recognition of these local differences. The current British theories were inapplicable to New South Wales; "let the evils of dispersion

therefore be what they may," he said, "they must be borne with."[25] Moreover, the plains were not worth the £1 per acre value placed upon them by the Home Government[26] and forced sales at this price would ruin the squatters, whom Gipps saw as the pioneers of settlement on the plains.[27]

While the squatters on the plains might be seen as pioneers, they were expected, like all pioneers, to be displaced by the follow-up of civilization and a closer settlement of the land. To the Colonial Government in Sydney as well as the Home Government, one of the most important features of such settlement was freehold tenure of land. Gipps, the protector of the squatters against the Home Government, circulated the Commissioners of Crown Lands in the various Pastoral Districts in 1843, asking for ideas on the best size of pastoral holdings on the plains and the means by which cultivation and the purchase of land might be encouraged.[28] On the returns to the circular he based his Occupation Regulations of 1844, which offered leases for five years on country beyond the limits of location, but a further lease of eight years had to be "bought" by the purchase of 320 acres on the holding. Opposition from the squatters prevented the enforcement of his policy and the system of six month depasturing licences, which Bourke had introduced, remained in force until 1847.

The Orders-in-Council of 1847[29] encouraged the squatters to legalise their position and at the same time recognised that settlement on the plains must be of a different character to that on the coast. Three classes of land were designated, ranging from the Settled Districts (essentially the old Nineteen Counties) where the pastoralists had only annual leases; through the Intermediate Districts, just across the mountains, where eight year leases of 16,000 acres (liable to annual offer of sale) were allowed; to the Unsettled Districts of the most distant plains, where the squatters could become legal pastoralists with leases of 32,000 acres for up to fourteen years. There was no limit to the total area held by one man provided that he held the land in the standard sized runs and paid his assessment on each of them.[30] Yet, the authorities were still concerned about dispersion into the interior and refused applications for leases beyond the control of the Commissioners for Crown Lands.

By 1856 the pastoral occupation of the plains was operating effectively on the principles set out in the Orders-in-Council, but there were already signs of future difficulties and land speculation was well established. Control of large sections of the plains was falling into the hands of city speculators who dealt in pastoral leases just as in stocks and shares.[31] The problems went

untouched until the early 1860s when both New South Wales and the new colony of Queensland attempted to increase the bona fide pastoral occupation of the plains and extend the scope of agricultural settlement.

2) AUTONOMOUS CONCEPTS 1857-1956

A) Exploration and Surveys

a) Exploration

After mid-century the emphasis in Australian Exploration shifted from the eastern plains to the far interior and so out of the scope of this study. Only the expeditions sent out from the eastern settlements in 1861 and 1862 in search of the Victorian Transcontinental Expedition (led by Burke and Wills) offered further information on the plains.[32] In contrast to earlier experiences this new information brought promise of a pastoral potential not previously recognised; coinciding with the occupation of the new colony of Queensland, this was partly responsible for the rapid settlement of the northern portion of the plains.[33]

With the return of these relief expeditions the initial exploration of the eastern plains was completed, and although their promise of a pastoral "garden" had to be modified later, their discoveries completed the geographical framework

of the physical features of the plains.[34] All that remained after 1863 was for this framework to be filled in by the state surveyors.

b) Surveys

The survey of the northern portion of the eastern plains began with the separation of Queensland in 1859. Prior to that date the New South Wales surveyors had not penetrated the country north and west of the Darling, Barwon, and Balonne rivers, and one of the first tasks of the Queensland surveyors was to map the pastoral runs which were being taken up in this country in the early 1860s.

The mapping of the pastoral runs involved little more than a traverse of the external boundaries and the blazing of trees as permanent markers. The vegetation and soil were occasionally noted on the trace of the boundaries but the edge of thick scrub seems to have been conscientiously traced in most cases. Similarly, the surveyors paid careful attention to the presence of watering places and all significant waterholes seen from the traverse were located on the trace.[35] Obviously, a survey of external boundaries, especially when runs ranged in size from 25 to 100 square miles, was at best a crude assessment of the country, but until the subdivisional surveys twenty years later such "crudities" were the basis of official appreciations of the plains.

After the separation of Queensland, the emphasis of survey work in New South Wales changed. The immense task of surveying the pre-emptive leases and small freeholds authorised by the Land Act of 1861 occupied so much of the time of the Survey Department that the less pressing but no less important work of general surveys and the reserving of land for public use had to be curtailed. In effect, the principle of selection before survey introduced by the Act enabled extensive private monopolies of the pockets of superior country and water supplies which, because of insufficient survey, were unknown to the authorities. This particular problem had become apparent by 1864, when, in the midst of their surveys of the new selections, the local surveyors were warned that the following year would see the end of many pastoral leases in the western districts and the opening of this land for conditional purchase. In order to prevent the private monopoly of western watering places by these conditional purchases, the surveyors were instructed to make public reserves which would extend to the unwatered "back country" and so serve both purchased and leased land.[36] Often, however, the surveyors appear to have been too late and public use of the resource was denied by private ownership.

In both New South Wales and Queensland the proposed subdivision of the pastoral holdings, embodied in the Land

Acts of 1884, brought the first extensive and, at the same time, intensive surveys of the character of the plains.[37] In both states, when the pastoral lessees elected to come under the new Act, their holdings were carefully surveyed and the terrain, soils, vegetation, and natural water supplies noted and mapped, along with any "improvements" made by the lessees. As the bulk of the pastoral holdings on the plains did elect to come either under these Acts or, in Queensland, the Amendment Act of 1886 (which had essentially the same provisions), these subdivisional surveys formed an impressive body of evidence of the character of the plains at this time.[38] The value of these surveys to the authorities was recognised from their inception and they appear, for example, to have been the bases for a detailed map of the northeastern portion of the Western Division, used by the New South Wales "Royal Commission on Conservation of Water" in 1885.[39]

c) Supplementary local experience

Throughout the hundred years from 1857 to 1956, however, the official knowledge of the plains was often supplemented from unofficial sources. The particular weighting of the unofficial information varied, but as evidence given to Select Committees or Royal Commissions its influence was considerable. Thus the "Select Committee on the Navigation

of the Murray", in 1858, obtained valuable descriptions of the country along the banks of the Murray and Darling rivers and on the basis of this evidence, while realising that agriculture would be difficult in so dry a climate, saw benefits to the pastoral community from river navigation.[40] Twenty-eight years later, the New South Wales "Royal Commission on Conservation of Water" attempting to investigate the possibility of storing rainfall and tapping underground water supplies, faced a major problem in the lack of information. There were no instrument levels, for example, northwest of the Darling River (except along the Queensland Railway to Charleville) and rainfall records on the Darling were rarely ten years old.[41] Most of their evidence on climate and the terrain was drawn from the experiences of the local pastoralists and the first of the new subdivisional surveys.

The Queensland "Royal Commission on Land Settlement" of 1897 and the New South Wales "Royal Commission...on the Condition of the Crown Tenants" of 1901 still relied upon the experiences of local pastoralists for the bulk of their evidence on the physical character of the areas examined. The lack of general knowledge was noted in 1897 when the Queensland Commissioners called for a map of the Colony, "showing the varying character of the country, and giving a minute description of the soils, watercourses, timbers,

grasses and the indigenous vegetation generally." [42] There was a similar problem in 1901, but in neither case did the lack of information prevent the formulation of policies for the settlement of the plains. The Commissioners, in 1901, commented on the past misconceptions:

> That the story of our western country makes such a gloomy page in the history of the pastoral industry of the State is probably mainly due to the general failure in the past of those interested--under the seductive influence of a short run of good seasons--to recognise that drought is the predominant characteristic of the west, and not merely an enemy to be occasionally encountered. [43]

Despite the un-scientific nature of much of its own evidence, the Commission suggested that enough was now known of the plains, to prevent the lack of information being accepted as an excuse for any future irresponsible action.

The twentieth century saw fewer general inquiries, but an increasing number of detailed investigations of more specific and limited topics provided evidence of the changing character of the plains.[44] The detailed surveys, undertaken by employees of various official agencies, usually involved personal field experience as well as the compilation of relevant data from the official agencies themselves.[45] These surveys represent a maturing of official opinion on the character of the plains, a growing awareness of their complex nature and of the need for local rather than general

investigations. They represent also an awareness that in the intensification of pastoral occupation lay any hope of an increased population. The intensification of that occupation seemed possible only by improved techniques in the industry, and it was towards the adaptation of such techniques to the limited resources that most of the official research in the twentieth century has been directed.

B) Legislation and Land policies [46]

Parallelling the growth of knowledge of the plains was the development of a policy for their settlement. The first point to be emphasized is that after mid-century this policy was to encourage settlement; before mid-century the initial attitude appears to have discouraged rather than encouraged the spread of pastoralists into the interior. The active encouragement of settlement originated in an increasingly complex system of legislation, which (over the hundred years from 1857 to 1956) appears to have, in part, mirrored the growing awareness of the complex character of the plains themselves, but, at the same time, to have reflected also the personalities of the legislators, the growth of the Labour policies in politics, and the national or international economic conditions. The relative importance of these factors varied in time and between the two Colonies and a chronological method of study has been

adopted in order that the parallel development of different influences might be seen in a time perspective. 47

Four sequences of pastoral settlement may be recognised in the century from 1857 to 1956. A period of pastoral hegemony from 1857 to 1883, preceded a transition period from 1884 to 1901. The drought which closed this transition period, ushered in years of pastoral relief and recuperation from 1902 to 1911, before the final sequence of retrenchment and perpetual grazing policies became evident from 1912 to 1956.

a) Pastoral Hegemony 1857-1883

The period opened as the pastoral occupation of the plains was gaining momentum after a long period of slow and fitful advance: it closed with the effective occupation of a large portion of the plains in a few pastoral holdings of considerable size. This situation was the result but not the intention of official land policies. The anomally needs explanation.

Moving westwards on to the plains from their bases in the east, the pastoralists drove their stock along the watercourses, pausing occasionally to assess the prospects of the surrounding country and finally building their stock-yards at the waterhole which promised to serve their choice of grazing land. Their only competitors in

New South Wales prior to 1861, were fellow pastoralists or the city businessmen speculating in the tenders for pastoral runs.[48] Virtually coinciding with the separation of Queensland, however, came a popular outcry against what had proved to be a monopoly of the land.[49] Legislation to answer this demand to "unlock the land" came in 1860 in Queensland and 1861 in New South Wales.

In New South Wales the whole concept behind the legislation of 1861 was dominated by the personality of John Robertson. His political platform of free selection of land before survey was a reversal of previous policy acclaimed by prospective smallholders, who saw in the policy the means by which their professed "land hunger" could be satisfied. Looking back in 1883, Farnell, Minister for Lands, introduced legislation to repeal the 1861 Acts with the comment:

> that law [1861] was conceived by its author... Sir John Robertson--in the best interests of the country; and it was intended by him that it should place on the lands of the colony a class of reliable, self-dependent, people--an agricultural population in fact.... It was framed for honest men not rogues.... the law was framed in great simplicity indeed; I mean upon the assumption that every person taking up land under it would be a bona-fide occupier of the soil. Such, I am sorry to say, has not been the result or the effect of the law. 50

Certainly, the provisions of the 1861 Acts gave ample scope for unscrupulous men. The countryside, whether leased or

not, was thrown open to selection by anyone willing to pay £1 per acre on lots of from 40 to 320 acres.[51] Just as the pastoralists had controlled large stretches of country by leases on the waterholes, so the selectors could now purchase the land in such localities and in turn hold either succeeding selectors or the original lessee to ransom by effective control of the surrounding waterless country. The pastoralists could, and did, retaliate by selecting themselves, or by agents ("dummies"), these "control points" or "eyes" of the country. The authorities were aware of the possibility of such action and continued their earlier policy of reserving strategic watering places for public use. Buried under the flood of applications for selections, however, the district surveyors were too busy to prevent determined efforts at private monopoly of water supplies.

The principle of the New South Wales Acts was to support the selector of limited means against the more wealthy pastoralists, and this policy remained, with only slight modifications, until the repealing Act of 1884.[52] Yet this was a period of pastoral hegemony, when the pastoralists prospered as never before, when they used the swords thrust against them to cut down their assailants, when they adopted the land laws intended to be their downfall to establish themselves more firmly on their holdings. By 1883, on the central and western plains of New South Wales, the selectors

had been repulsed and, by threats of force or the expenditure of capital on bribes or defensive selections, the pastoralists were effective masters of all that they surveyed. It is true that they had been forced to invest more capital in their holdings than might otherwise have occurred and that this capital was, towards the end of this period, being applied to improving the efficiency of leases made more secure for investment by the efforts to baffle the existing land laws, but the fact remained that this success was in direct contradiction to the official policy.

The failure of the Robertson policy to settle either small graziers or agriculturalists on the plains had become the subject of so much agitation by 1883 that an "Inquiry into the State of Public Lands" was begun. The Sydney Express welcomed the inquiry:

> We have had 22 years' experience of the working of a land policy...which has resulted in ignominious failure, so far as bona fide settlement. In other respects, its effects have been far worse; it set class against class from an early date of its existence, arrayed Squatter and Selector in unnatural antagonism...stimulated perjury and other crime, offered a premium for successful dummyism and blackmailing, and demoralised a large section of the young men of the country. 53

In Queensland also a less basic but none-the-less important change in land policy was being considered at this time.

The two colonies, however, had come by different paths to this year of 1884 which was to form a cross-roads in the attitude to land settlement.

After separation, Queensland legislation had created a "Land Code" within which all forms of accepted land settlement were to go forward side by side. Three types of settler were provided for, the homestead selector on 320 acres, the grazing farmer on up to 20,000 acres and the pastoral lessees on up to 1,000 square miles.[54] The pastoralists in Queensland had distinct advantages over their New South Wales neighbours for they were allowed a longer period in which to stock their runs to the required quarter carrying-capacity, and the stocking requirements were less -- 25 sheep to a square mile in comparison with 40 in New South Wales.[55] Pastoral leases in Queensland could be for the old period of 14 years in comparison with the five years in New South Wales, and the rent or occupation fee was only assessed on the land available for pastoral use. Since up to half the area of a pastoral run could be claimed as unavailable, the actual rent paid could be half the nominal ten shillings per square mile on the total area.

The contrast in attitudes of the two colonies to pastoral settlement was maintained throughout the period. The Acts of 1863 and 1869 were even more liberal in that they allowed the consolidation of runs up to a total area

of 200 square miles to ease administration of the leases, and in 1869 reduced rents to five shillings per square mile (with only three shillings on unwatered runs) while leases were extended to 21 years. At the same time the lessee was given the chance to buy 2,560 acres at ten shillings per acre and this enabled the pastoralists to pick out the "eyes" of the country in much the same way as their southern neighbours.

The attempts to settle smallholders on the plains however, appears to have been as unsuccessful in Queensland as in New South Wales. Coghlan commented on the first decade of land legislation in Queensland that in spite of the sale of 5,000,000 acres for tillage, it "had little success in effecting the purpose of its authors, and at the end of the period the industrious yeoman was as conspicuous by his absence as he was at the beginning."[56] In 1872, the "Homestead Areas Act" attempted to put farmers on to selected lands in holdings of from 120 to 320 acres which could be enlarged by purchases to 640 acres. Four years later came further attempts to settle agriculturalists on pastoral holdings[57] but the result by 1883, in Queensland as in New South Wales, was merely the entrenchment of the pastoralists on large holdings effectively controlled by a combination of leases and freehold tenures.[58] In the years 1883 and 1884 the authorities in both colonies

acknowledged the failure of previous policies, and through a common decision to subdivide the pastoral holdings for more intensive settlement of both agricultural and pastoral character, they effectively put an end to the era of pastoral hegemony. The result was a period of painful transition linking the era of extensive occupation with the more intensive pastoral occupation of the twentieth century.

b) Transition 1884-1901

The legislation over the years from 1884 to 1901 contained elements of both past and future land policies. The Acts which opened the period, however, aimed at a new assessment of the problem of establishing a permanent population on the land, for they recognised the need for a more flexible system of tenures to meet the variable characteristics of the plains. Broadly speaking, the legislation was concerned with at least four different classes of land tenure, from the old-style pastoral leases and temporary pastoral occupation licences, through agricultural or combined agricultural and grazing leases, to special leases devised to meet the contemporary problems of plains settlement. The lack of success of prior attempts at purely agricultural settlement discouraged indiscriminate subdivision for agriculture, but both Colonies

continued more cautious efforts until the prolonged droughts at the turn of the century forced a revision of policy.

i) Intensification by subdivision

The intensification of settlement on the plains after 1884 was effected by a subdivision of the existing pastoral leaseholds, a principle not new but for the first time effectively applied to the bulk of the plains.[59] In New South Wales, the pastoralists were offered a new lease of 10 or 15 years for half their holding, the other half being resumed for further settlement. This was virtually duplicated in Queensland, except that if the lease had been recently granted, more than half the area might be retained at the new 15 year lease. The new rents favoured Queensland pastoralists, for their minimum could be a farthing per acre compared with a penny to threehalfpence per acre in New South Wales, where there could be no appeal from the decision of the Minister for Lands, whereas the ultimate appeal in Queensland could go to the Supreme Court. The Queensland Government was continuing the more sympathetic attitude to the pastoralists which had marked its earlier policies.

Most of the Queensland lessees, however, did not take advantage of the new Act until it was amended in 1886,

when their leases were extended for 21 years with the same concessions as before. New South Wales followed suit in 1889 by offering new leases of 21 years and topped the Queensland conditions by offering a further extension of five to seven years if the stock carrying-capacity of the holding had been improved substantially by the lessees. Three years later lessees in southwest Queensland were able to obtain a seven year extension provided they erected a rabbit-proof fence around their holding. Parity between the colonies was again destroyed in 1895 when New South Wales offered new leases of 28 years in the Western Division.

This parallel development of policies in the two colonies with first one and then the other offering a more liberal concession to the pastoralists, is one of the striking features of this period. The parallellism was recognised at the time and there was a conscious effort to ensure that the policies of neighbouring colonies should not offer more attractive conditions for the investment of capital in the pastoral industry.[60] The Parliamentary Debates contained references to "rival" policies whenever domestic land policy was up for discussion, and often details of legislation were adopted from adjacent colonies as well as from abroad.[61]

While the pastoralists continued to operate upon a half of their holdings, the authorities proposed the methods

by which the resumed portions were to be occupied by more intensive settlement. The proposals suggested that for the bulk of the plains the method would be small grazing holdings--miniatures, in fact, of the existing pastoral holdings. Dutton, the Queensland Minister of Lands, echoed his New South Wales counterpart, Farnell, when he claimed that his new Land Bill "will effect what I suppose most of us desire--large numbers of prosperous holders of moderate areas of land, which is in every country regarded as the most wholesome form of progress."[62] In Queensland such men were to occupy Grazing Farms of from 2,560 to 20,000 acres, while in New South Wales Homestead Leases of from 5,760 to 10,240 acres were to be available. Once again Queensland offered more attractive conditions, with larger maximum areas, for longer leases (30 years against 15 to 20 years) and at lower rents (a minimum of three-farthings compared with a penny per acre). In 1889 the Homestead Lessees of New South Wales were offered a new lease of 21 years with no minimum rent, while in 1892 the Grazing Farmers in southwest Queensland benefited from the seven year lease extension given to the pastoralists. Finally, in 1895, the Homestead Lessees could opt to come under the 28 year extension of lease granted to the pastoralists and could claim a reduction of rent if the

carrying-capacity of their land had been seriously reduced by the rabbits. For the small grazing holdings the liberalising of conditions of tenure usually included the extension of leases afforded to the pastoralists, plus a reduction of rent. The authorities were beginning to realise that the small graziers needed actual monetary relief as well as the usual extension of time in which they might hope to recoup any immediate drought losses.

Until such time as the resumed areas of the original pastoral holdings were occupied by the new settlers, the original lessee was allowed temporary use of the land. In New South Wales the license fee for this land was £2 per square mile (usually much less than the remainder of the lease) and in Queensland the new rent could not be more than the original. In western New South Wales it had become obvious by 1895 that the resumed areas would not be occupied by small graziers and the lessees were allowed to regain the leasehold of this country at a nominal rent; in Queensland, use of this land continued to be by annual licence.

Agricultural settlement was not encouraged after 1884 in either New South Wales or Queensland, except in the most favoured locations. In New South Wales agricultural land could not be purchased in the Western Division, while in Queensland, agricultural selections were only possible

in limited agricultural reserves near the western towns.

An innovation in the legislation was the provision of special leases for specific problems facing the settlement on the plains. Most of these new leases were offered in New South Wales and were aimed either at the encouragement of capital investment or the control of noxious plants and animals.[63] There was no really comparable legislation in Queensland.

ii) The effects

General studies of the history of settlement on the plains see this period as one of stress, initiated in part by deteriorating natural conditions. S.H. Roberts commented on the 1884 Act in New South Wales that:

> Its introduction coincided with a period of stress, due to the drought, the delay [of remedial legislation], low prices, the rabbit plague, and the spread of scrub on the Darling lands. The upshot was that the new classes under the 1884 Act were "created to be crushed", especially in the west where only 200 settlers came forward and where, in consequence, the resumed half of every run became a breeding-ground for vermin. 64

King saw the period as the beginning of the involvement of large financial houses in western pastoral properties, a problem for future legislation:

> It has been the involvement of the "big companies" in long term, western Crown leaseholds--acquired in many cases in the 1880s and 1890s--which it has been the purpose of later land reforms to correct, by periodically withdrawing land from these companies and dividing it between existing small leaseholders with insufficient areas and new settlers. 65

The investment of capital, by enabling the development of additional water supplies, increased stocking capacities and profits in the good years, but affected only the larger leaseholds; the small graziers, having invested most of their capital in stocking their country had little surplus for the development of "improvements" and when the drought killed off their stock, it removed virtually the whole of their assets. Even the larger investors lost considerable sums of money in this period[66] and by 1901 there was agitation by large and small holders for relief from their rents in both Queensland and New South Wales.

c) Relief and recuperation 1902-1911

Agitation for relief from the effects of drought in 1901 and 1902 originated both from the local pastoralists and from the overseas investors (principally British) whose returns on their investments had been reduced if not completely cut off.[67] As a result of this pressure, both State Governments passed relief legislation to put renewed vigour into what had threatened to become a moribund industry. So liberal was this relief in Queensland that

later official policy criticised the Acts as permitting the land to be "locked up" once more in pastoral leases.[68] There was less criticism in New South Wales although the measures were basically similar.

The relief measures of 1901 to 1902 were founded upon the general principle that existing leases should be extended in order to enable the lessees to regain some of their losses by continued operations over a longer period of time. The minor differences between the relief Acts were thought worthy of comment, however, and in the 1902 "Report of the Department of Public Lands" in Queensland, the two main relief measures were compared.[69]

Of the two policies, that of New South Wales was popularly considered to be the most sympathetic to the pastoralists. The Queensland Minister for Lands commented:

> It has been asserted of the latter [Western Land Act of New South Wales] that it offers more Liberal concessions in regard to the three most important features of pastoral tenure--viz., duration of lease, rental, and freedom from resumption....[there are] distinct advantages, but their superiority over the Queensland provisions may be rather comparative than absolute. 70

The New South Wales lessees were given new leases to 1943 compared with the extensions from 1910 to 1949 in Queensland; rents could be lower in New South Wales, where the minimum

was half that in Queensland, but the maximum rents were about equal;[71] and with the resumption of only one-eighth of their area compared with one quarter to a half in Queensland, the New South Wales lessees were less likely to be disturbed in tenancy over the next forty years.[72] In return for a liberal treatment on tenancy, however, the New South Wales pastoralist accepted more stringent terms of lease which included the control of noxious plants and vermin, the cultivation of edible shrubs where required, and a certain amount of official supervision of his activities. He could, for example, be required to furnish reports to the Minister for Lands on stocking practices and land use. The Western Land Board, created to supervise the administration of the Act had, in fact, a paternal control over the settlement of the Western Division. There was no equivalent body in Queensland, nor was there any attempt to create a separate administration for the western plains settlement although, mirroring the New South Wales Western Land Act of 1901, the Queensland lessees were required to control vermin and noxious plants and to provide details of operations where necessary. Relief measures had come to be associated with increased official control of the processes of settlement.

With the improved seasons following the drought, the writing-off of debts by many of the mortgagees and improving

prices for wool (Figure 4), the pastoral industry on the plains settled down to a period of recuperation with the prospect of the extended period of operations. The Western Land Board reported in 1903:

> it may be assumed that under the liberal conditions of the Western Lands Act, and with the present prospect of good seasons, the pastoral industry in the Western Division is now on a reasonably sound basis....under the present lightly stocked condition of the country the herbage, shrubs, and grasses will revive and increase. 73

The Queensland Land Commissioners were reporting good seasonal conditions on the central and western plains by 1905 and sheep properties were noted to be fetching high prices.[74] By 1910-11 recuperation was complete and both states saw these years as among the most prosperous experienced by the pastoral industry.[75] At this period of renewed confidence the land legislation of both states was consolidated, the many amending Acts being brought together under one title to simplify administration.[76] This action reflects the confidence of the authorities that, for the immediate future, there was not likely to be any major changes in land policy. For not quite twenty years afterwards, this opinion was unchallenged but the ripples from the world depression of the early 1930s spread over the inland plains and policies had to be reviewed to meet the new disturbances.

d) Retrenchment and perpetual grazing 1912-1956

The trend towards an increasingly complex official approach to the problems of settlement on the plains had been retarded by the relief legislation of 1901-02, which had been little more than an attempt to preserve the status quo, but the trend appeared again in the forty years following the 1910 and 1913 codification of the states' land policies. Complex policies, however, present complex problems of interpretation. The continuities are obvious: at the end of the period there are the same relatively large pastoral holdings on the plains with the smaller grazing leases still scattered amongst them. There have been changes, however, for the large holdings have lost part of this area which has gone either to increase the size of existing, or create new grazing properties. These smaller holdings, strengthened by perpetual leases, are now the dominant form of settlement on the plains. These continuities and innovations are obvious enough but the links between them and the logic (if there is one) of official policy which produced these facts are less obvious and need to be examined chronologically as three parallel sequences. First, and representing a trend from the previous period of relief and recuperation, are the events bearing upon the question whether the plains environment could survive continued occupation of any kind; second,

are the continued attempts to promote closer settlement of a pastoral character, and third, the emergence of official ideas on the need to conserve the plains environment if settlement of any kind was to be successful.

i) A deteriorating environment?

The Royal Commission of 1901, assessing the reasons for the depression in the Western Division of New South Wales, had listed eight factors, five of which (low rainfall, rabbits, overstocking, sandstorms and the increase of non-edible scrubs) implied a deterioration of the environment.[77] In the fifty years following the Commission, popular sources of information, as noted in Chapter 1, suggested that this deterioration continued and was aggravated by the reoccurrent droughts. Of the droughts there is no lack of evidence, popular or official, but the question of a deterioration in the environment is less easily resolved. Clues can be found in the actual stock figures for the plains together with certain legislation which suggests official concern for stock capacities or the conditions of the environment.

The problem of restocking the plains after drought losses reappeared at least three times during the period 1912 to 1956, but the success with which it was met appears to have varied between the states. The absolute totals of sheep on the plains, graphed as Figure 3, show that the

Queensland portion of the plains took the lead over the New South Wales portion in 1915 and maintained that lead thereafter despite fluctuations during droughts. The sheep numbers on the Queensland plains seem to have been unaffected over a long term period by any deterioration of the environment either at the turn of the century or later. In contrast, the New South Wales long term averages (Table 2) show a deterioration in the early years of the twentieth century and only a slow rise to mid-century. From the figures the deterioration was only evident in New South Wales, and even here the capacity of the environment to support stock, although reduced early in the twentieth century, was beginning to improve towards mid-century.

Despite this evidence that deterioration of the environment was not the problem claimed by the popular writers, the legislation of the period did show that both state governments were aware of a problem. This concerned rather the protection of the available natural feed for domestic stock against competition from vermin, in particular the rabbit, and from non-edible plants, such as the various burrs and prickly pear (Opuntia spp.). The drought in 1901 and 1902 had decimated the rabbit population on the plains but the years of recuperation had often been a race between rabbits and sheep for the best pastures and the sheep

rarely won. Measures to control the rabbits were introduced and effective throughout the period, but not until the introduction of myxomatosis virus in the 1950s was the rabbit population of the plains really under control.[78] The prickly pear cactus had been spreading in southeastern Queensland prior to 1900 but not until 1910 was it recognised as a serious problem in the northeast of the Western Division, where seeds had been brought down by floods and were spreading along the Barwon River. Legislation to control the spread of the cactus began first in Queensland and many of the provisions were adopted by New South Wales.[79] As with the rabbits, preventive legislation was in force throughout the period but effective control through improved technology came relatively late.

Whether or not the carrying capacity of the plains declined after the droughts at the turn of the century, there is no doubt that the successive droughts of the twentieth century had an impact on absolute stock totals on the plains. The graph of sheep totals (Figure 3) shows that the droughts of 1911 to 1916 and 1935 to 1945 coincided with falling stock numbers. The importance of the droughts varied locally, however, the drought of 1918 to 1920, for example, devastating only the Western Division.[80] The main problem facing the pastoralists in time of drought

was one of mobility, either fresh feed had to be brought to the stock or, a less costly process, the stock could be shifted to the feed. Official policy had recognised this problem but appeared unable or unwilling to tackle it effectively.[81]

Losses of stock from other factors were relatively insignificant at time of drought but in the better seasons their importance increased sufficiently for them to be made the subject of legislation. The wild dog or dingo was considered a menace to the flocks throughout the period; in New South Wales, the pastoralists obtained permission to tax themselves to fence out and destroy dingoes by the "Wild Dog Destruction Act of 1921"--an Act which replaced control by the Pasture Protection Boards, relics of the nineteenth century.[82] In Queensland the control of the pest was similarly in local hands with, however, Government help in the form of barrier fences around the infested areas.[83] There seems to have been no provision in the legislation for control of losses from blowfly, which made inroads on flocks in the better seasons, but the problem received attention from the CSIRO and a partial remedy in the treatment of the sheep by "mulesing" was promoted after experiments over the period 1938-1946.[84]

Stock losses aggravated by drought, the suggestion in the Western Division of declining stock-carrying capacities

on the plains, coupled with the decline of wool prices in the world depression after 1929 (Figure 4), stimulated the pastoralists and graziers to press for further official relief during the period. In the nineteenth century tradition, relief was offered through extension of tenure and the freezing or reassessment of rents. Acts in Queensland gave 20 year extensions in 1927, 20 year extensions to western cattle holdings in 1929 and 10 years to sheep holdings in 1931, while the rent on sheep holdings was reduced for two years following 1936. In New South Wales, lessees were offered extensions of 25 years in 1930 but only in return for withdrawals of up to half the area (spread over 23 years); in 1934 the withdrawals were reduced to three-eighths.

Pastoral relief in the twentieth century, however, involved more than mere repetition of nineteenth century concepts. Extensions of tenure were granted upon old premises, but official opinion was beginning to object to the continued demands of the pastoralists. The objections arose even in Queensland where the pastoralists had a traditionally sympathetic hearing and where the relief Acts of 1927, 1929, and 1931 had all provided for "the adjustment of tenure that would be necessary to give the lessee a reasonable opportunity to recoup financial losses and drought expenditure which have been incurred in recent years." [85] Yet in 1927 the Under-Secretary for Lands

was complaining that the relief legislation would further "lock up" the best pastoral lands of the State and be the same hindrance to closer settlement as the 1902 legislation had been. The small Grazing Selectors should have the benefit of extended leases but the larger pastoralists should be encouraged to pioneer country further west and develop for sheep what up to then had been only cattle country.[86] His ideas were adopted in part by the succeeding Acts of 1929 and 1931, which gave the lease extensions on condition that between £1,000 and £2,000 were spent upon the development of the properties.[87] The pastoralists could not expect indefinite extensions to their tenures.

Deterioration of the plains environment in the twentieth century cannot be proved from the general stock statistics, which suggest either a brief period of reduced capacities followed by an improvement, or a steady improvement in long-term capacities occasionally marred by drought losses. Deterioration in the sense of a steady decline of capacities is conspicuously absent; as a whole the plains did recover from the catastrophe at the turn of the century and this was reflected in the subsequent legislation which was no longer content to give relief indiscriminately but required effort and investment, not merely continued occupation, in return.

ii) Closer pastoral settlement and perpetual grazing

If, as they claimed, the droughts which opened the twentieth century destroyed the confidence of the pastoralists, it also destroyed the confidence of the authorities in their ability to establish small graziers on the plains. In New South Wales there were fears that the western plains would never see intensive settlement of any kind. "Force of circumstances and experience," said the Secretary for Lands introducing the 1901 Act, "drive us to the conclusion that that is not a part of the country suitable for small settlement, and the most that the Government can expect, for many years, to get from that region is the rental value fixed on the number of stock which is to be run by a leaseholder."[88] In Queensland even the most sanguine opinion saw that closer settlement would be delayed for many years. The 1902 Act would lock up the land for periods up to 40 years, admitted the Secretary for Public Lands, introducing the Bill, but he was satisfied that the action was justified in the light of the condition of the pastoralists and lack of demand for small grazing properties at that time.[89]

Hopes for closer settlement rose again, however, with the improving fortunes of the pastoral industry over the

period of recuperation 1902-1911. The subdivision of large holdings was renewed and small graziers once more advanced westwards. Areas up to 30,000 acres were set aside as Grazing Selections in Queensland and any attempts to reverse the trend towards closer settlement were opposed.[90] Attempts to subdivide the pastoral leases in the northeast of the Western Division following the 1918 Act were the unsuccessful antecedents of more successful subdivision after the 1930 and 1934 Acts.[91] The results by 1956 showed that legislation had promoted closer pastoral settlement more successfully in New South Wales than in Queensland. By 1956, 96 per cent of the Western Division of New South Wales was held under Western Land Leases, the bulk of which (83 per cent of the total area) were perpetual leases of limited area,[92] with the remaining small proportion in larger properties. The changes shown on Table 3 indicate that at the same date, closer pastoral settlement only occupied 23.2 per cent of the area in Queensland and the increase in proportion from 1911 was less than that in New South Wales.

The development of intensive pastoral settlement was accompanied by the emergence of two important concepts in land policy which appear to have originated in official experiences on the plains. The first was the realisation

that a minimum area was required for successful settlement; the second, that pastoral settlement was likely to be the optimum type of occupation and should be accepted as such by the granting of perpetual leases. The seeds of both concepts had been broadcast on the plains in the nineteenth century,[93] but their flowering came in the first half of the twentieth. The minimum area ("living area" in Queensland, "home maintenance" in New South Wales) was variously defined and its size fluctuated over the years but the concept remained intact and by 1956 all pastoral settlement was defined in terms of the living areas required.[94]

The acceptance in New South Wales of pastoral occupancy as the optimum use of the plains has not been duplicated in Queensland. Perpetual leases on home maintenance areas were offered by the 1932 Act in New South Wales and had been widely adopted by 1956. In Queensland, however, graziers could only lease 2,560 acres in perpetuity; the remainder of their land could be held only on limited lease.[95] The concept was recognised but the Queensland legislators were unwilling after 1911 to further "lock up" the plains as pastoral occupancy for an indefinite future.

The optimism of the period of relief and recuperation brought more than a renewed confidence in the pastoral

industry; agriculture was, once more, knocking at the door. The development of agriculture on the humid fringes of the plains is generally outside the scope of this study, but at this time there were hopes that agriculture, with new techniques and experience,[96] could spread on to the semi-arid portions of the plains, and there were successful developments with irrigation south of the study area in Victoria and southcentral New South Wales.[97] For the study area itself, however, development was recognised to be limited; west of the Darling River there was no possibility of agriculture for "many years to come",[98] and irrigation from small weirs on the eastern fringes of the Queensland plains came to serve not agriculture but the pastoral industry, producing not wheat but fat lambs.[99] The knocks on the door were not an open sesame.

iii) Conservation of the plains

The drought at the turn of the century brought not only new legislation and attitudes to land settlement, but also new attitudes to the land itself. In the relief Acts of 1901-02 were found the beginnings of conservation policies which had become well established by 1956. The evidence of soil erosion, failure of water supplies and destruction of vegetation provided by the Royal Commission of 1901 had initiated attempts to control the supposed

deterioration of the environment. The debates in New South Wales and Queensland on the two relief Acts are perhaps the first to give serious consideration to the question of the conservation of the resources of the plains.[100] The results, particularly in New South Wales, were the first effective regulations for the control of the land use.

Increasing Government supervision of land use on the plains in an attempt to conserve the resources became obvious with the creation of special authorities to deal with the problem. Prior to 1900 there had been piecemeal controls of land use, but with the regulations of the relief Acts and the creation of Government departments came effective conservation policies.[101] In Queensland the first step was the creation of a Land Administration Board in 1931, to coordinate and supervise the work of the Department of Public Lands and the Sub-Department of Irrigation and Water Supply.[102] The Bureau of Investigation, created in 1943, was a logical sequel since it included members of the Land Administration Board and what had come to be the Irrigation and Water Supply Commission. Its duties were to survey and plan the development of the resources of the State.[103] "Development Areas" could be set up, within which all land use was to be strictly supervised.

New South Wales, since 1901, had possessed in the Western Land Board and its successor the Western Lands

Commission a Government body with some control over land use on the plains, but in the same year as Queensland created the Bureau of Investigation, the Labour Premier (McKell) published his proposals for the future development of New South Wales. Post-war "Reconstruction and Development" was to be on conservationist lines.[104] In 1944 he proposed a new ministry to conserve the "national resources", and the Department of Conservation which resulted presented its first report in the same year that he was touring the world to investigate foreign conservation theories and techniques.[105] In 1949 a Conservation Authority was set up to coordinate surveys of water, timber and soil resources made by the Departments of Lands, Department of Conservation, and the Water Conservation and Irrigation Commission.[106]

In detail, the growth of some conservation concepts pre-dated the acceptance of an overall conservation policy, and on the semi-arid plains in particular, conservation of certain facets of the environment was early accepted. One such facet was the question of water supplies. In 1906 the New South Wales Government gave itself power to regulate state water supplies, especially the artesian wells on the plains. Three years later, the Queensland Government was advised to copy this policy,[107] but the implementation of the suggestions and effective state control of all water supplies did not take place until the Act of 1926.

The supposed deterioration of the plains vegetation was not effectively controlled until legislation in the 1930s. A clause to restrict stocking on pastoral leases had been thrown out of the New South Wales Act of 1901; not until the Act of 1934 was the clause re-instated and only by the Act of 1949 could the Minister for Lands order land to be rested by complete removal of stock.[108] After 1936 the Queensland Minister could request lessees to reduce their stock numbers, if they were "injuriously" using the land, but his control of overstocking by 1956 does not appear to have been as extensive as that possible in New South Wales. The point to be emphasised in both policies, however, is that control, although implicit early, was effective late in the period.

As with the problem of vegetation, soil erosion, although mentioned as a specific problem of the plains at the turn of the century, was not considered worthy of action until late in the period. New South Wales set up an Erosion Committee in 1934 and a Catchment Area Board to control erosion in catchment areas was created in 1936, but their work was outside the plains country. A Soil Erosion Bill was introduced into the New South Wales Assembly in 1937 and the Soil Conservation Service created in 1938, but only after long discussion of the question of erosion.[109] About the same time, there was debate in Queensland on soil

erosion but her Soil Conservation Service was not formed until 1947 and was less concerned with erosion on the plains.

3) SUMMARY

From the explorers, the surveyors, the legislators and the administrators, the clues have accumulated and official policies crystallized. The officials, discouraged by their explorers, see the plains first in European terms - forbidding deserts where settlers and civilisation would be dissipated without trace. The success of unofficial settlement forces a reappraisal of the possibilities and the plains are officially opened but still in European terms - the yeoman farmer is to inherit the wilderness. He proceeds to his inheritance but either sells at a profit to the monopolistic pastoralists or bankrupts himself in an attempt to make a bona fide home for his family. The officials are appalled, policy is revised and the yeoman farmer is replaced by the yeoman grazier who proceeds to his inheritance only to be ruined (in the company of the pastoralists) by a reassertion of the wilderness in the late nineteenth century. The officials continue to be appalled but are now stirred to action. Not only must the land be given in sufficient quantities and for sufficiently long periods to enable successful occupation, but the use of that land needs to be supervised to prevent the revertion

to the wilderness. Conservation of resources has begun and by mid-twentieth century is effectively dominating official attitudes to the plains.

But before we turn to the detailed examination of a portion of the plains, what other sources for the analysis of opinion have been overlooked? One which has been generally ignored in geographic studies is the methods used in the evaluation of land for taxation purposes. The analysis of such methods and their results, together with a summary of what appear to be significant questions raised by the general study of opinions on the plains, form Chapter 3, which will both conclude the first part of the thesis and pose some of the questions to be considered in the second part, the study of the Warrego Country as a section of the plains.

CHAPTER 3

THE APPRAISAL OF THE PLAINS: METHODS AND PROBLEMS

From the study of the popular and official concepts of the plains it is but a short step to the analysis of the detailed techniques of land appraisal which were adopted in Australia. Two techniques relevant to pastoral lands will be examined, the first being their evaluation for taxation purposes as rent and the second their classification for varying intensities of pastoral use. As noted in Chapter 2 the low pastoral productivity of the plains has meant that the bulk of their occupation has been by pastoral leases from the Crown at yearly rents. The question whether this rent is a valid method of appraising land quality must be considered in two stages. The first is the examination of the general principles of rent assessment current in Europe and America at the time that the initial policies for Australian land appraisals were being formulated. As Garland has pointed out, there were considerable external influences upon early Australian concepts of land taxation, and we must recognise the possibility of similar influences on the question of land

appraisal as rents.[1] With this general background, we may then examine the specific development of rent assessments in Australia as stage two. Following this consideration of rents, we shall investigate some of the attempts at pastoral land classification, before concluding the chapter with a summary of the questions which, arising from the general investigations in this first part of our study, are to be considered in the detailed examination of the Warrego country.

1) THEORIES OF LAND APPRAISAL IN THE NINETEENTH AND TWENTIETH CENTURIES

The expansion of European colonisation in the nineteenth and early twentieth centuries brought immense areas of "new lands" in the Americas, Africa, and Australia into the ken of the European economy. Along with the "new lands" came a renewed interest in the evaluation of land quality not only in the "old lands" of Europe, where competition from colonial products was making an impact on land values, but in the "new lands" themselves, where European techniques and concepts were being introduced to novel situations.

In Europe, and Britain in particular, the high prices and increasing rents during the Napoleonic Wars had stimulated interest in the general questions of economic

theory and a corollary, land evaluation.[2] With the decline of agricultural prices after 1820, following the over-production of wheat in Ireland in the good harvests of 1819-1820, and the relaxation of restrictions on foreign imports of foodstuffs after 1825,[3] the distress of the British farming community stirred further discussion of the contemporary problems. The debate ranged over the whole field of political economy, but a large section, of relevance here, concerned the question of rents. Fundamentally the debate on rents was between two parties, one which maintained that land had a value in its "raw" or "virgin" state and that this value only should be taxed, and the other which held that the land itself had no value until labour and capital had been invested in it and any taxation would be on the investment rather than the land.

A) <u>The "natural" value</u>

The idea of an inherent value in land was established early in the debate. Malthus, in 1815, suggested that while the rent itself was the surplus after a normal profit on investment, rents could be related to lands of certain quality.[4] Yet he made no suggestion on the method by which such "qualities of the soil and its products... the gifts of nature to man" could be assessed.[5] The quality of individual plots of land would vary but variety was

seen as an advantage and in certain cases a varied whole was more valuable than the sum of its individual and uniform parts assessed separately.[6] In fact, appraisers in England by mid-nineteenth century were considering the physical character of the land in some detail but were beginning to recognise that other facts would have to be included in their calculations.[7] The concept of a "natural" value died hard, however, in 1929 there were still authorities prepared to put a "natural" value before any value from investment of capital or labour,[8] and the theory was still voiced at mid-twentieth century.[9]

B) The acquired value

Ranged against such concepts were the disciples of David Ricardo, in combination with the settlers in the "new lands". Ricardian theory maintained that the land was a natural not artificial agent in production with originally no "psychic cost, in contrast with the psychic sacrifice involved in making, improving and modifying other things which were thought to be ruled by the labour theory of value." [10] In settling a new country where land was abundant and means to develop it scarce, "there will be no rent", said Ricardo, "for no one would pay for the use of land, when there was an abundant quantity not yet appropriated Given, however, an investment of capital and labour, the

land acquired value. Any tax on this value became a tax on the investment and indirectly on production. If production costs varied, such a tax would be unjust, but in the "new lands" where because of the lack of investment such costs more closely reflected the quality of the land alone, such a tax might be tolerated.[12] In the United States the association of value only with investment ensured that while land remained abundant, the settlers would not be tempted to make any investment which would create a taxable income and as a result would rather exploit the natural qualities of the land until they were exhausted.[13]

C) Expediency and a nominal value

The governments of the "new lands" could not accept the Ricardian doctrine, pleading that expediency dictated the sale or lease of the land as a source of revenue to fill the new treasuries, to subsidise immigration, and promote settlement generally. Adopting, therefore, the theory of a "natural" value, the authorities set a nominal value on the land for purposes of taxation.[14]

When projected into the twentieth century, however, the divergence of opinion narrows and the issues become less clear-cut. The nature of rent is recognised as becoming increasingly complicated through the inclusion of additional variables. In defining "land valuation", Morehouse in

1934, made a two-fold division placing agricultural and pastoral land in the second category as a "productive" good, being a commodity whose potential remained after use for production.[15] He noted the variety of factors which had come to be included in the "productive" assessment, from the natural qualities to the extent to which those qualities had been, or might be, developed, and including a host of intangibles too numerous to be listed. An Australian study by Gutman in 1955, adopted the four factors affecting the unimproved value of land which had been proposed by Garland in 1934. In order of importance these were "productive value", "position value", "prestige value", and "prospective value".[16] To cover such a range of factors the modern appraisers have come to rely more upon the market value of the land, i.e. that price which experienced and willing buyers would pay for the land, arguing that such buyers consider most of the intangibles in making their purchase. The distinction between the natural and acquired value of the land has been lost by the merger of these with other criteria.

D) Rents as appraisals

The importance of the rents as indicators of contemporary ideas on land values remains whichever theory was applied and in spite of the complications of the twentieth century.

If the rent was accepted as a tax on the natural value of the land, then it represents ideas on the natural potentials for development in contemporary terms. As Garland interpreted Ricardo, "the rent of the land...measures a differential superiority, or an advantage with respect to a margin." [17] A nominal or token rent will suggest that the land had only a nominal and uniform value; a gradation of rents will suggest a gradation of values.

If, on the other hand, the rent was assumed merely to tax investment, then the natural potentials are still being assessed but in the terms to which the settlers are prepared to develop them by investment; the assumption being that the more valuable the land the greater the investment. This argument is particularly relevant to the semi-arid plains whose settlement came after the better watered lands to the east and south had been occupied and where, because of the low productivity, capital had to be judiciously invested to afford a reasonable return.[18] The rent on such investment should reflect a careful analysis of the potentials by the investors.

No doubt the use of rents will produce some anomalies. The time lag between the translation of changing ideas on land quality into rents, where assessments are renewed at infrequent intervals, may be considerable. Thus nominal rents might continue long after contemporary ideas had

begun to differentiate the quality of the land; but at the time when they were made, the rents may be assumed to be a reasonably accurate guide to ideas of land quality. With such qualifications in mind we can now carry our argument from the general to the specific, from the wider concepts of European colonisation to their application in Australia.

2) PASTORAL LAND APPRAISALS IN EASTERN AUSTRALIA IN THE NINETEENTH AND TWENTIETH CENTURIES

A) Appraisals 1813-1856

By the time the first settlers had established their stock on the plains in the 1830s, the colonial authorities had given up the initial policy of free land grants and in the years which followed were considering the land as a source of revenue. In this they were paralleling foreign trends for, as Garland noted, "Ricardo had written, Mill had argued, George had persuaded, before any of the States had assessed land to taxation....The source-books and the authorities were thus current in many mouths."[19] Yet in the practical problem of awarding a price to the land and assessing its different qualities, the solutions were more often empirical.

The minimum sale price of land in New South Wales, set at five shillings per acre in 1831, was raised to 12 shillings per acre in 1839 and to £1 per acre in 1842.[20] Unauthorised

occupation of the plains by stockmen, who refused to purchase land, forced the authorities to compromise and a system of depasturing licences for stock "runs" beyond the area of the Nineteen Counties was established in 1836. In effect this licence gave the right to graze stock on the land in return for a nominal fee. Following the "Crown Lands Occupation and Border Police Act" of 1839, the licensees had to pay an additional assessment on their stock, to provide funds for the Border Police, who were responsible for the protection of the settlers from attacks by aborigines as well as general law and order on the plains. In one sense this additional "rent" set a precedent to be followed on the plains. From a tax on the nominal natural value of the land, official policy had come to accept revenue from the productivity of the land in terms of stock carried. The development of this official policy, however, was in the face of opposition from the local pastoralists.

The opposition crystallized in the 1844 "Select Committee on Crown Land Grievances" which reviewed local opinions on land values and proposed modifications of official policy on the question of land prices. Instead of the £1 per acre asked for freehold land the Committee suggested that five shillings per acre was sufficient and

even then, as Governor Gipps agreed, "in consideration only of the collateral advantages of water and back run" (i.e. if the sale gave control of a larger area than the mere area sold).[21] The nominal value, the Committee admitted, covered a variety of country, parts of which were more attractive than others, but of such a low general value that for purposes of taxation, "the only intelligible measure of the value of the [pastoral] station...is the quantity of stock which it is able to support in an average season."[22] The pastoralists were refusing to pay anything more than a nominal fee for the natural value but were prepared to be taxed on their investments in stock. In practice the theory broke down since, as was pointed out, the pastoralists claimed the right to pick out the best portions and by strategic location control the surrounding and inferior country--they were claiming uniformity but practising discrimination.[23]

As a result of the Orders-in-Council of 1847 the rent of pastoral land combined both the concepts of natural and acquired value, since runs in the Unsettled and Intermediate Districts were leased at a minimum of £10 per year on an area sufficient to depasture at least 4,000 sheep. The minimum area sufficient for this purpose was set at 16,000 acres, so that in effect the rent was a tax on both

carrying capacity and the land itself. This compromise was to be the basis for most of the later assessments of pastoral land for taxation.

B) A century of change: appraisals 1857-1956

a) Pastoral rents

A dichotomy in approach to land valuation which had characterised the first, dominated also the second half of the nineteenth century. Popular ideas maintained that the land itself had little or no value and should not be taxed. The Crown Tenants of the Upper Darling petitioned against the proposed New South Wales "Land Acts Further Amendment Act" in 1879, complaining that the new minimum rent of £1 per square mile was unjust, "this being country which in its natural state is absolutely useless, and which is only brought into bearing by the expenditure of large sums of money."[24] In 1887 the failure of closer pastoral settlement by Homestead Leases in the Western Division was claimed by Wilcannia pastoralists "to confirm the assertion... that, apart from the improvements, the land has no value." [25]

i) Increasing "natural" value?

In contrast, official policy maintained that the natural or unimproved value of the land was increasing over the years mainly as a result of improved public transport facilities.

In Queensland the 1860 Act (No.11) placed a minimum rent of ten shillings per square mile on the "available" pastoral land while "unavailable" land went rent-free until 1897.[26] Originally, this minimum was to be doubled after the first four years of occupation but legislation in 1863 retained the old rents and a measure, in 1868, to increase the rent to between £18 and £32 per square mile was repealed a year later, the old rent being continued for a further seven years. New leases, however, were rented at half the old figure and unwatered country was offered at three shillings per square mile. The 1884 Act (No.28) kept the minimum value at ten shillings per square mile but applied it to all the area leased and the maximum rent was increased to 90 shillings per square mile, or 1.68 pence per acre. On the Grazing Farms, (closer settlement leases established on areas resumed from the original pastoral holdings), the minimum rent was set at 0.75 pence per acre. At the end of the five year period for which these rents were to apply, the new rents would be appraised upon carrying capacities and this method was to be a feature of all future assessments in Queensland.

In New South Wales the Act of 1861 (No.2) had continued the 1847 rent at £10 and the minimum stock assessment of the 1858 Act (No.17) at £20, giving a "rent" of £30 per 16,000 acres, or 0.45 pence per acre. Actual appraisals

had tended to reduce the proportion paid on stock until, in 1879, Sir John Robertson claimed that many of the runs in the interior were being leased at only the nominal fee of £10, or 0.15 pence per acre.[27] He, therefore, supported the Act of 1880 (No.27) which increased the minimum rent to £1 per square mile, or 9.37 pence per acre, although new leases were valued at half this rent. Obviously, a period of occupation was considered to increase this nominal value, and the 1884 Act (No.18) continued the policy by increasing the minimum to one penny per acre in the Western Division and three-halfpence in the Central Division, with, as in Queensland, future rents to be based on the assessment of carrying capacities.

These were the trends in the minimum land values accepted by the Crown--trends towards an increasing unimproved value of the land. Could this trend be justified and if so, how? The answer appears to rest on two hypotheses, the first that the value no longer represented merely the unimproved quality of the land but something more complex, and the second that perhaps new natural potentials had come to be recognised. Before considering these hypotheses, however, we need to look more closely at the basis for the rent assessments in general.

ii) The basis of assessment

The assessment of an unimproved land value involved the recognition of the natural pastoral potentials of the land, i.e. its ability to support stock. Thus the Queensland rents in 1860 were to tax only the natural grazing capacity[28] and the New South Wales rents after 1875 were only to take into account the natural capacities and not the improved carrying capacities resulting from the investment of capital.[29] Such a policy gave rise to several logical assumptions in assessments. For any pastoral property, the value of the whole was recognised to be greater than the sum of the parts; variety of country was superior to uniformity. The 1884 Act (No.28) in Queensland maintained that, "in case of a portion of a holding being resumed, a reduction is to be allowed in the rent, not only proportionately to the extent resumed, but also to make good any depreciation in the value of the remainder caused by such resumption."[30] The natural value, however, could be further depreciated by natural catastrophes such as drought or flood, and rent relief at such times represented a renewed appraisal of the reduced natural value.[31] Such reductions could be a financial embarrassment to succeeding administrations anxious to share in pastoral prosperity.[32] The problem was, how to increase the assessments?

iii) The rationalisation of increasing "natural" value

The increase was achieved both by a recognition of new potentials and a practical, if not theoretical, shift of official policy towards the assessment of essentially the improved value of the land. The two factors are closely entwined and must be considered jointly.

Technological advances in the late nineteenth century brought lands previously remote and of little value into a new significance. The discovery of artesian water on the plains in 1879, together with the boom in river transport of the 1870s and the arrival of the railways from the east in the 1880s, saw a fresh appraisal of the pastoral potential. To the authorities the new appraisal was of an enhanced natural value. The New South Wales Minister for Lands circulated his appraisers in 1874, suggesting that the contemporary rents were only nominal and:

> as all station property has considerably advanced in value since the date on which the leases falling in this year were last appraised, I think that, without in any way fettering the discretion of the Government Appraisers...it may be well to advise them that the Government fully contemplate a considerable increase of revenue from this source. 33

The increased minimum rent of 1880 was to meet the improved conditions for pastoral industry on the plains, particularly the public transport facilities offered by the railways.[34]

Similar thinking prevailed in Queensland[35] and until the droughts at the turn of the century both states were demonstrating that the natural potentials were considered to be neither static nor exhausted.

iv) The problem of development and "realised" value

Yet the further the appraisals became removed in time from the initial contact, the more difficult it was to appreciate the original character of the country. Following the investment of capital in the improvement of watering facilities, the provision of fenced paddocks and the partial removal or destruction of useless vegetation, the assessment of original carrying capacities became more complicated.

As a result, the official appraisals tended to consider the extent to which the natural potentials had been realised rather than the extent to which those potentials had existed. This concept was evident as early as 1865, when the New South Wales Chief Commissioner for Crown Lands circulated his appraisers to the effect that not only were the natural grazing capacities of the country to be considered, but also the susceptibility of the country to increased capacities through improvements. "It is considered just," he wrote, "that country offering, in its natural state, facilities for improvement, should be rated at a higher estimate than

country of the same character not possessing the same advantage, whether it be availed of by the holder or not."[36] Later in the century this trend had developed, and checking the forms used by the New South Wales appraisers from 1886 to 1896 several interesting themes are apparent.[37] Consideration of stock-water supplies was common to all forms, together with notes on the character of the terrain and its soils, the nature of the vegetation and its value for stock, and the carrying capacities of the area in both unimproved, current, and as ultimately improved states. The situation of the land with regard to communications and accessibility of transport were not listed until 1891, while in 1896 two further variables were considered, first the damage from rabbits and second management. The rabbit problem,which reached serious proportions after the 1880s, explains the first, but the second is an interesting illustration of the way in which the authorities were beginning to consider more than the mere natural potentials: here, for the first time, was a consideration of the past land use as an influence on present value.

During the twentieth century, in the legislation of New South Wales, the natural value was swamped under the developing concepts of value after improvements. The Act of 1934 (No.12) set a maximum rent of seven pence per sheep

"on the fair average carrying capacity of the land when reasonably improved",[38] and this was still in force at mid-century, although the maximum had been raised to between six pence and one shilling and sixpence per sheep. All pretence at the evaluation of land on purely natural merits had been abandoned, and the ultimate test of evaluation was recognised to be the sale price of the land.[39]

In Queensland, the beginnings of the trend towards the appraisal of the improved value appeared in the late nineteenth century. The 1884 Act (No.28) based rents on stock-carrying capacities in average seasons "after a proper and reasonable expenditure of money on improvements."[40] The proviso was omitted from the 1897 Act (No.25) as being an unfair taxation on investments,[41] but the same Act established the principle that the rent should be related to "such a sum as a tenant might reasonably be expected to give for the holding, having regard to the length of tenure and all the circumstances of the case."[42] The definition of rent was being enlarged. The trend continued in the 1910 Act (No.15) where although the rent was not to reflect any "increase in the value of the holding attributable to improvements", the fifth factor to be considered by appraisers was "the amount which experienced persons would be willing to pay for land of similar quality in the same neighbourhood."[43] This amount would certainly include their

assessment of the value added by any improvements on the property. By 1927, the potential for increased carrying capacities after investment was under consideration by the authorities; the Land Settlement Advisory Board commented:

> The words [unimproved value] are sometimes wrongly interpreted by Crown tenants to mean that rents should be fixed as if the lands are, and must always remain, in a state of nature without any improvements whatever. Such an interpretation is clearly wrong. The unimproved value of the grazing land includes its potentialities and especially its power to increase its carrying capacity to a greater or less extent in proportion to expenditure. 44

The Wool Advisory Commissioner repeated the interpretation in 1939 and it was still in force at mid-twentieth century.[45]

By 1956, the dichotomy in the attitudes to land valuation, which opened the period, had disappeared. In its place was a marriage of ideas which had accepted that valuation should consider the improved character of land; a marriage, however, only registered in New South Wales although consumated in both states. The classification of pastoral land reflected this trend but forms a separate story.

b) Pastoral land classification

i) Administrative divisions

The first classification of pastoral land came with the territorial divisions of the 1847 Orders-in-Council.

This division into settled, intermediate, and unsettled districts was merely for administrative convenience, but in so far as legislation differed between the districts and affected actual occupation of the land, the division deserves mention. More detailed classification of the land was established first in the new colony of Queensland, where the 1868 Land Act (No.46) provided for three categories of agricultural, and first or second class pastoral land. There were problems in classification, but the policy was far ahead of thinking in other colonies.

As a result of the 1883 "Report into the State of Public Lands" in New South Wales, the 1884 Act (No.18) set up the Eastern, Central and Western Divisions of the State. Land legislation was to differ in each division and basically they were developments of the 1847 districts, although founded more directly upon the physique of the country, especially the climate and vegetation. This trend towards a regionalization of land legislation was maintained in 1901 by the creation of a separate administration for the Western Division within the New South Wales Department of Lands: the special conditions of the semi-arid plains were recognized to require special treatment. In Queensland, however, after the early start, there seems to have been no equivalent sub-division of land administration on a broad regional basis: the plains remained under the general State administration.

The question of pastoral land classification does not rest here, for we must now examine two features which, although mentioned briefly earlier, need to be more fully documented. First is the "availability" of pastoral land, and second the question of "living areas".

ii) The "availability" of pastoral land

To understand the development and use of this term, the basic requirements of the pastoralist need to be established. At the time of initial occupation they were simple - water and feed for the stock. Implicit was sufficient area on which stock could be depastured and a sufficiently short distance to market to enable the produce to be shipped economically either on the hoof or by dray. In the absence of either water or feed, successful occupation was impossible, but given the widespread distribution of one, then even a limited distribution of the other had significance. Thus, while there were areas on the plains possessing neither water nor feed for stock, there were small areas having abundant water but limited supplies of feed, and larger areas where feed was abundant but water scarce. In the first case the pastoralists could find no country available for their purposes, but in the second and third cases, country was available although in terms of the scarcer commodity.

The chronological development of the concepts of "available" country illustrate this. The earliest evidence shows a concern for water supplies in country where grasses and saltbushes were abundant. For the Bligh Pastoral District (between the Castlereagh and Macquarie rivers) the Commissioner for Crown Lands wrote to the Colonial Secretary in 1846 that, although "the natural available land in this District has long been occupied, the unoccupied is still great and can be made available by artificial means such as sinking for water and making reservoirs or dams to retain the water." [46]

Stock feed was not always available on the plains and when water also was absent the country was useless for pastoral purposes.[47] If, on the other hand, water was present, the quality of the feed was the deciding factor. Landsborough, returning from the Gulf of Carpentaria in 1862, found that the middle course of the Warrego River "has fine reaches of water, but the banks are too thickly wooded with mulgah scrub to be of much value for pastoral purposes."[48] The value of mulga (Acacia aneura) as a fodder was not then apparent and land which could have been stocked, using the water from the river, was thought useless from the lack of feed.[49]

Legal recognition of the fact that parts of the plains might be useless or of limited value for pastoral purposes, was given first in Queensland, where, in keeping

with the sympathetic attitude of the 1860s, "unavailable" land was not taxed for rent. The exploitation of this proviso by the pastoralists[50] led, in 1863, to a more restricted definition of "unavailable" country; no land was to be excluded from rent "except absolutely barren country or dense scrubs. All grasslands, whether within accessible distance from permanent water or otherwise, shall be deemed available country." [51] Apparently, official policy was unwilling to accept that lack of water made country useless, the guiding factor was the type of vegetation. In 1884 the definition was further amended to include only country "which consists of inaccessible ranges or for the time being consists of dense scrub." [52] Not only was the presence of water no longer considered, but the importance of vegetation was recognised to be only temporary. Then explanation lies in the development of surface water storage facilities and the discovery of the artesian basin, together with the possibility of pasture improvement by the ringbarking of useless scrubs. By 1897 all land was considered to be legally "available" for pastoral purposes in Queensland.

Although the New South Wales authorities never wrote into the land laws any definition of "unavailable" country and made fewer concessions to the pastoralists on this point, there is some evidence of similar thinking. Prior

to the 1880 Act (No.27) the appraisers of pastoral lands appear to have been allowed to deduct value (for taxation purposes) where part of the area was unavailable through lack of water or feed, but the minimum rent set by the 1880 Act brought complaints from appraisers that the actual rent paid on the available country was much more than the theoretical minimum.[53] Nothing was done, however, and the increased minimum rent of 1884 merely emphasised that from the official point of view all land was held to be of use to the pastoralist.

Thus, had the ideas of the plains changed. Recognised at first contact as a patchwork of land of variable utility, by the end of the nineteenth century, the plains were officially considered to be generally attractive to the pastoral industry. The change, as suggested above, appears to have resulted from a recognition of new potentials and an improvement of the condition of the plains through investment of labour and capital. From such developments and improvements the land gained new value over the years. This gain, however, is less obvious when we turn to the second feature of land classification on the plains--"living areas".

iii) Pastoral living areas

The question of "living areas" or "maintenance areas" arose from the closer settlement policies of the late

nineteenth century, when for the first time the authorities attempted to restrict the maximum, and ensure a minimum, area for individual pastoral occupation. Prior to such policies any failure of settlement from lack of sufficient area for successful occupation was a personal affair of the pastoralist. If he lost his capital investments because they were too small to meet the vicissitudes of pastoral operations, he had only himself to blame for not allowing a safety margin. If, however, his "investment" in terms of land controlled, had been limited or reduced by the authorities, he had a weighty grievance should that "investment", through no fault of his own, be found insufficient to meet a time of stress in the industry. By their attempts to intensify the pastoral occupation of the plains through subdivision of properties into areas thought sufficient for successful operations, the authorities had accepted the responsibility for that success. In view of the uncertain character of the plains environment, therefore, considerable thought had to be given to the minimum areas on which operations could be expected to be successful.[54]

The definition of the area required to support a family unit from pastoral operations was considered first in the 1880s when both New South Wales and Queensland

began in earnest the policy of subdividing the large pastoral properties. The New South Wales "Report of Inquiry into the State of the Public Lands" in 1883 asserted that in the Western Division at least nine square miles (5,760 acres) was necessary for a pastoral homestead.[55] In 1897, 10,000 acres was thought insufficient in the Bourke District of New South Wales[56] and 20,000 acres was thought to be necessary in the waterless country of western Queensland.[57] The New South Wales "Royal Commission.. into the Condition of Crown Tenants" of 1901 accepted that 10,240 acres was an insufficient area and suggested that, instead of a fixed area, a fixed minimum number of stock should be used, the area to be calculated from this figure using the average local carrying capacities. A normal figure of 4,000 sheep was proposed, although increases to between 6,000 and 8,000 would be necessary in the more arid west.[58] Queensland had accepted the 1897 figure of 20,000 acres for Grazing Selections but by 1902 had enlarged the area to a possible 60,000 acres in the western interior.[59] The steady increases in the minimum areas are a significant commentary on the official policy. More and more area was thought necessary for successful occupation; was this a reflection of improving knowledge, of deteriorating conditions, of increasing demands or what? For a possible answer we must look to the twentieth century.

In Queensland, after 1915, the living areas had been defined in New South Wales terms, i.e. the number of stock required.[60] In 1923 the "Royal Commission on Prickly Pear" had increased the sheep minimum to 5,000 and in 1927 the question was again under consideration. Some opinions held that the areas were too small: others that they were too large. The first originated with the pastoral lessees and, according to the Under-Secretary for Lands, was associated with the imminent fall-out of their leases and their hopes of retaining as large an area as possible; the other appeared to represent the interests of prospective pastoralists who had no property of their own.[61] The Wool Commissioner commented in 1939, that:

> The general prosperity and the keen land hunger experienced in the years following the Great War, forced the undue subdivision of Crown Lands.... The current idea was that great incomes could be made from small areas of land, and the Government was pressed and badgered to take land away from those who were using it to advantage and open it in small areas....Subsequently the bubble burst.... due to the 1926-28 drought. 62

As a result of the current drought and the investigations of a Queensland Government Committee, the 1927 Act (No.17) enlarged the definition of a living area until it represented not merely a "sound economic proposition", but enabled "a reasonable reserve" to be established "to assist such selector over drought or dry periods without the necessity

of seeking assistance from the Government."[63] Successful occupation required an area which would provide a surplus for emergencies.

The definition of living area was changing even in its basic provisions. The Queensland "Royal Commission on Pastoral Lands Settlement" of 1951 suggested that while the basis for the subdivision of cattle holdings in the interior should be the traditional minimum number of stock (from 750 to 10,000 according to local conditions), more than the maximum of three such living areas could continue under single ownership if the holdings formed part of a chain of properties where "cattle are bred in the remote regions, staged at intermediate properties and brought finally to the coast for fattening prior to killing." [64] The authorities were beginning to think in terms of more than a family unit.

The family unit, however, continued to dominate thinking in New South Wales, and was affirmed in the Acts of 1908 (No.30, Section 2), 1934 (No.12, Section 18E) and 1949 (No.45, Section 17CCC). There was, moreover, no parallel to the "reasonable reserve" thought necessary in Queensland, the area was to be sufficient only for "average seasons",[65] and although in 1938 it was claimed that "not only the living standard but also the preservation of the natural environment (soil and vegetation)" was being considered,[66] there was no evidence to substantiate

this in the later definitions of the "home maintenance areas".

The increasing size of the living areas in both states during the twentieth century appears to be the result of several factors, among which in Queensland, was the recognition of the need for a safety margin of production and the fact that other than family interests were at stake on the plains. Yet neither of these factors appeared in New South Wales. How then can the increases here be explained? Part of the answer may lie in the growing experience of drought conditions which appear to have been worse in New South Wales than Queensland,[67] but part also seems to be connected with the political controversy over the "basic wage" in industry. The living area concept appears to have preceded the "basic wage" question in the nineteenth century, but the two concepts were parallel in the first half of the twentieth century.[68] I can find no proof of the influence of one upon the other, but the coincidence in time and theory is remarkable. The "basic wage" was an attempt to provide a minimum income sufficient to support a family in essentially an urban environment, while the living area attempted the same for the rural scene. The increases associated with rising "living standards" in the one, may have been reflected in the other.

3) PROBLEMS OF PASTORAL LAND APPRAISAL ON THE PLAINS

To conclude both Chapter 3 and the first part of this study we shall examine the questions arising from the consideration of general attitudes to the plains. Such questions are essentially illustrations of the problems of origin, interpretation, and application of ideas on the character of the country and will provide both vantage points from which to view in detail conditions in the Warrego country, and possible avenues for investigation.

A) Available knowledge

Any general assessment of the potentials of the plains seems to have been a vague groping in the murk of ignorance. Until far into the twentieth century, official knowledge had to rely heavily on hearsay and second-hand evidence. Yet inadequate knowledge was better than none and the authorities made the best of their available evidence.[69] Even as late as 1927, mistakes in land policy were attributed to lack of knowledge - a lack, however, which could be remedied with help from the stockmen.[70]

The general public was in a worse position than the authorities. Few, of course, were interested in the condition of the plains and of those who were, many appear to have been misled by propagandists either of the "free

selectors" or the "squattocracy", the yeomen of the "Garden" or the fugitives from the "Wilderness". It is not surprising, therefore, that the public was accused of ignorance[71] or of having an unfortunate influence on events.[72]

To make up for the lack of local experience, the authorities sought advice abroad. Most of the foreign experience adopted in Australia originated in North America and the United States in particular.[73] During both the nineteenth and twentieth centuries, insufficient local knowledge forced the legislators to consider experience which had, in fact, doubtful relevance to their specific problems on the plains.

B) The true character

The characteristic and interdependent features of the plains which stand out from these general considerations are space and the consequent freedom of movement. Space, the sheer area of the plains, was both a disintegrator and unifier of the pastoral occupation. The uneven quality of the country led to the isolated occupation of more favourable portions in the midst of the "wilderness" which was, at best, temporarily occupied; communication between such "oases" was difficult and reinforced the psychological barrier of remoteness.[74] Yet the uneven quality of the country might prove an integrating factor, for in the

appraisal of the land a combination of a variety of country was considered superior to country of uniform character and whether this was reflected in a conscious spread of individual activity over different types of terrain is a question we shall examine in the Warrego country.

The enormous extent and uneven quality of the plains prevented a steady or uniform spread of settlement and appears to have fostered instead, at least initially, a temporary and highly mobile occupation of the land. The pastoral potentials of the country appear to have changed not only in space but in time, even the tasks of the pastoral worker were characterised by variety rather than monotony.[75] Movement and change appeared to be the essence of the plains, how far was this true in detail?

C) The ethics of occupation

> We have been talking here for twenty-five years about closer settlement. We have had a hundred amendments of the Western Land Act, the purpose of almost all of them being to create a better system of closer settlement. We find now that speculators secure a living area, then obtain an additional area, and then look for a purchaser for the whole or portion of the area. I am of the opinion that the set-up of the western lands is altogether wrong. We seem to be going along in a state of perpetual motion: we have no more men on the western lands today than we had twenty years ago.
>
> (Davidson, MLA Cobar, NSW PD, 13 March 1945, p.2570.)

Any general study of the settlement of the plains is, at first glance, a study in failure. This failure to establish the settlement envisaged by legislation was thought by many contemporaries to be a function, in part, of the unethical attitude towards that legislation. There were inadequacies in the land laws and in their administration, and many practical difficulties facing settlement, but a major problem was thought by the attitude of the settlers themselves.

Of the motives behind settlement, this general survey has offered little evidence except the suspicion that for a large proportion of the so-called "settlers", the motives leant more towards temporary financial gain rather than the establishment of a permanent home on the plains. Short term profits appear to have had more attraction than the long term interests of the general community: the bona fide settler seems to have been a rare species among the many birds of passage on the plains.

D) The success of settlement

Yet judgement on the success or failure of settlement must not be hasty, for it faces a problem of definition. From an individual point of view, successful occupation of the plains might be associated either with speculation in the land or actual development for pastoral purposes,

yet for the victims of speculation and for the authorities anxious to establish a population on the land, success was judged in terms of bona fide occupation. Unsuccessful settlement could be judged either as the failure to establish bona fide occupation or the economic failure of such occupation. Since a large proportion of the plains remained under lease from the Crown throughout the period, the authorities had a double interest in the problem of successful settlement, having their responsibilities as landlords to add to their concern for the general welfare of the population.

E) Summary and prospect

From a high rock we have looked out over the plains and seen far off the advance and retreat of settlement, the flowering of a "Garden" and the scouring of a "Wilderness". Certain questions have been raised, but to examine them in detail we must descend on to the plains and traverse the Warrego country, hoping in the closer view to find the evidence hidden from the distant vision. Traversing the country in time and space, we shall consider the development of knowledge of the environment and any apparent influence upon settlement; we shall look for any evidence of the recognition of a "true character", and in the examination of the history of pastoral occupation

attempt to assess the extent to which it has been successful. With the evidence from this traverse we shall return, in the concluding chapter, to our rock and try to distinguish more clearly some of the forces at work in the past appraisal and settlement of the plains.

PART II

THE OCCUPATION OF THE WARREGO COUNTRY

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INTRODUCTION

To reconstruct and appreciate the occupation and settlement of the Warrego country we must transport ourselves back through time into the physical environment and mental climate of the past; we need to see the country through the eyes of the explorers and assess it through the minds of the settlers. Sufficient evidence is available to suggest that the sequence of occupation fell into at least four distinct phases--periods when the pace, intensity and nature of occupation were sufficiently homogeneous to be distinguishable--and these will form the framework for the second part of our investigations.

The first phase (1828-1866) comprises a period when knowledge of the Warrego country was slowly and sometimes painfully accumulated, a period of exploration both official and independent. The surge of occupation which brought the period to a close, although originating in political and economic swells far beyond the borders of the Warrego country itself, gave a practical demonstration of the limited extent of local knowledge. After the expansion in

the early sixties, occupation ebbed, only to flow again and with increasing force in the second phase from 1867 to 1883. By the end of this second phase the whole of the Warrego country had been occupied and the legislation of 1884-1886 was to set the character of the third sequence, namely the attempts to intensify that occupation. The supposed failure of those attempts in the drought at the turn of the century brought a reconsideration of the question of settlement in the Warrego country and in the half century which followed and which forms our final chapter the dominating theme is caution and what might be called a "conservative realism".

CHAPTER 4

PIONEERING 1828-1866

To assess the initial occupation of the Warrego country[1] we will examine some of the contemporary visions of the local environment before reassembling the facts of settlement and attempting to illustrate the contemporary appraisals of the pastoral resources. Since we must set the scene, to begin our narrative with the first effective occupation in 1836 would not suffice and we must date our examination from the first white contact--the explorations of Sturt--in 1828.

1) THE ENVIRONMENT: FACTS AND FANCIES

Early knowledge of the Warrego country appears to have varied not only according to the experience but also the "character" of the discoverer. Thus there seem to have been at least four different concepts of the Warrego country, ranging from the aboriginal vision, through official knowledge based on the reports of explorers and surveyors and the vague ideas of the general public, to finally the private and often secret knowledge of individuals.

A) Aboriginal concepts

The importance of the aboriginal concepts of the study area rests upon three considerations. The first is that the

knowledge of the indigenous people, based on their long experience of possibly changing conditions, is itself worthy of study. The second is the importance of this aboriginal knowledge to the first white explorers, and the third is the possible impact of their occupation on the environment.

The details of the aboriginal occupation of the Warrego country are not easily reconstructed but there is sufficient evidence to suggest that the back country between the Culgoa and the Warrego rivers was virtually unoccupied and formed a "march-land" between tribes with different languages and possibly different customs.[2] Tindale's "Map of Aboriginal Tribes" before white contact shows that nine tribal areas impinged upon the Warrego country and the lack of aboriginal knowledge of the area might reflect the close juxtaposition of so many different tribal boundaries.[3] In the case of the study area lack of water may have been the reason for the negative character of the aboriginal assessment, for tribal areas appear to have been oases in the "desert".

Aboriginal concepts of the environment, particularly their knowledge of water supplies, were of great value to the early white explorers. Some ninety miles northwest of the Barwon River, according to one aboriginal source,

was "a lofty range of mountains" thirty miles wide, beyond which after a further sixty miles was a large river. To Sir Thomas Mitchell, in search of a navigable line of transport to the northwest in 1846, such information was a useful argument in support of further exploration, however sceptical he might have been of its truth.[4] A similar form of the same legend encouraged at least one of the private explorers, in 1860, to expect good water supplies northwest of the Darling River.[5] Until the explorers were able to see for themselves, they were prepared to accept such aboriginal concepts as served their purpose.

The impact of aboriginal occupation upon the Warrego country is difficult to assess; the limited evidence suggests that, within the areas of the river frontages usually occupied, the vegetation could be significantly affected although at very irregular intervals. Mitchell noted in 1846 that the nardoo grass had been gathered for its seeds along the Narran River; both he and Sturt saw many bush-fires whenever they reached relatively high country, and Gow found the flats along the Irrara Creek had been fired by the aborigines in 1861. Obviously the effects of aboriginal occupation could easily be exaggerated, but they may have been more substantial than the white settlers gave them credit for.

B) Official concepts

a) The explorers

Through the work of the official explorers from 1828 to 1862 the main outlines of the Warrego country were sketched in.[6] To Sturt, in the drought of 1828, the valley of the Darling River and the country beyond it to the north held out "but little prospect for advantage." Beyond the river flats which carried not grass but polygonum bushes, "the plains of the interior stretch away, whose character and soil must change, ere they can be available to any good purpose."[7] Mitchell, in 1832, found that the "low level country", described by Sturt, stretched away beyond the Barwon as far as the eye could see, but with more favourable seasons in 1835 he found conditions along the Darling River had improved. Although the back country was still bare, the river frontages carried a heavy crop of grasses.[8] North of the river, however, in the study area itself, the prospect was not attractive:

> The basin of the Darling...appears to be very limited on the...western side, a desert country from which it did not receive, as far as I could discover, a single tributary of any importance. A succession of low ridges seemed to mark the extent of its basin, nor did I perceive in the country beyond, any ranges of a more decidedly fluviatile character. 9

Official opinion changed as a result of Mitchell's 1846 expedition which found excellent grasslands with

sufficient water for first class grazing land along the Narran-Balonne frontages, but again the country deteriorated rapidly away from the rivers and to the northwest scrubs and unwatered country barred the way.[10] Returning down the Warrego valley in 1847, Mitchell's second-in-command Kennedy found open forest with grassy plains surrounding the waterholes. As grazing country he had not seen any to surpass it "and but very little to equal it, either as being adapted for depasturing of cattle or any kind of stock."[11] Below the present site of Cunnamulla the valley deteriorated for the river split into many dry channels and to save his party Kennedy had to turn southeast towards the Culgoa, across waterless scrubs and sandhills ravaged by bush-fires. With Kennedy's report, the official exploration of the Warrego country was virtually complete. It remained only for Landsborough, returning from one of the Burke and Wills Relief Expeditions in 1862, to comment favourably on the central portion of the Warrego Valley and to note the several stations already established there. Significantly, however, his comments were not extensive, for he was here in country already explored.

b) The surveyors

After the drays of the explorers came the pack horses of the surveyors with the tripods and chains which were to measure the wilderness. Following the decision to extend and intensify the surveys of the pastoral districts,[12]

a reconnaissance along the Darling River in 1847 found the country below Mitchell's old depot, Fort Bourke, inferior to that higher up the river, although even there extensive scrubs on the frontages barred the way to the better grass and saltbush plains further away from the river. For 70 or 80 miles west of Fort Bourke "now and then there were patches of good country, but generally speaking it was very indifferent." [13]

In the same year Surveyor Gorman was transferred to the new pastoral district of Liverpool Plains and his first task included a traverse from the Barwon to the Culgoa River, mapping the northern tributaries of the Darling en route.[14] By July 1848 he had reached the Culgoa, but his tardy and skimpy reports brought little fresh information and only the wrath of the Surveyor General. "I fear", Gorman wrote in September, "the whole of the country between the Barwon and Narran rivers is badly watered". "No news this", scribbled Mitchell in the margin. Beyond the Narran he found better country, "equal to any that I have seen in this district. The scarcity of water will however prevent its ever being thickly occupied".[15] Although his technical competence was questioned,[16] his pessimistic view was at least representative of contemporary official opinion.

A decade later, with the separation of Queensland imminent, the lack of knowledge of the country north and west of the Barwon and Darling rivers brought fresh surveyors to the scene. T.E. Wener, in November 1859, was given precise instructions for the survey of the Darling from the Bogan to the Warrego, which he was to trace up to the 29th Latitude, the future border between New South Wales and Queensland. He was to pay particular attention to surface water supplies, noting the permanent water-holes and dry creeks. Further, "the character of the soil and its timber and grass or other herbage, with the boundaries between the plains, and forest are to be recorded and noted clearly on the plans",[17] while watering places and lands of public utility were to be reserved.

Like Gorman, however, Wener appears to have fallen victim of the difficulties of western surveying and his reports were delayed - by floods, as he claimed; by neglect and incompetence, according to the Surveyor General. By the time the reports arrived in Sydney, in September 1861, the contract for the surveys had been re-awarded to two men, Rowland who was to survey the plains between the Culgoa and Narran rivers, and Arthur who was to survey the lower Warrego and Paroo.[18] Both did competent work and their traces were the base upon which the boundaries of the pastoral runs came to be marked. By 1865, also, the

the colonial boundary along the 29th Latitude had been marked where it crossed any watercourses, but the whole length was not surveyed geodetically until after 1878.[19]

C) Popular concepts

The general knowledge of the Warrego country prior to 1866 was neither extensive nor precise. The official explorations were reported in the newspapers as well as being published separately, but apart from this limited source rumours were the main source of information. "Within the last two or three years", noted The Empire in 1860, "various rumours have been afloat of the existence of fresh water lakes and extensive tracts of fine country to the north-west of the Darling. These floating rumours have rested for the most part on the hearsay evidence of stockmen and others who had obtained their information from the blacks".[20] Such fancies were encouraged by reports from interested parties of South Australians who saw in the Darling Valley a potential hinterland of Adelaide, following Captain Randell's successful navigation of the river in 1859.[21]

From the directories and gazetteers, however, a less favourable vision appeared. Wells in 1851 virtually ignored the area, while Whitworth in 1866 suggested that the bulk of the country consisted of barren scrubby plains

broken occasionally by well-watered pastures along the frontages but generally "little suited for pastoral purposes."[22]

D) Independent concepts

Exploration north of the Darling River was not confined to the official parties, for there are many hints and some evidence of independent explorers at work. Some stockmen may have been investigating the Barwon and Culgoa-Narran country in the mid-1830s[23] but the available evidence suggests that the greatest activity took place between 1859 and 1861 when the official parties were preparing for the separation of Queensland. De Rinzy's exploration of the lower Warrego (or Barungha as he called it) was reported in The Empire, 29th June 1860, and he must have followed on the heels of Dowling, who established a cattle station close to the mouth of the Warrego and explored extensively to the northwest. For Dowling the flats along the Warrego River were "as good cattle country as one could see" despite a shortage of water.[24]

On his later exploration of the Paroo River in 1860, Dowling camped with Arthur's official party, which had been joined by two other independent groups traversing the same country. One group included two brothers who were to establish a station on the Warrego River in Queensland, visited by Landsborough in 1862, and the other, Robert Gow,

who had heard glowing reports and was exploring for himself. The discussions in camp showed that all were favourably impressed with the country north of the Darling and west of the Warrego, the main difficulty being the water supply. Gow summed up:

> I had an opportunity of looking at the country laying back from the frontage [of the Darling] and found the pasture of most superior quality - Not a hoof has ever trod it - there it lays hundred and thousands of square miles, all that could be desired in the way of feed but not a drop of water. No streams, no lakes, no springs for one or 200 miles. 25

Elsewhere, opinions differed. Gow himself noted that to "many experienced bushmen" the country was "a desert" and the climate "unhealthy".[26] Approximately two years later two experienced stockmen examined the frontages below Dowling's station and were not impressed, although they had cause to regret their views later:

> It was then impossible to judge what the country might become thereafter by stocking, but as it stood and we saw it, it compared unfavourably with the Darling Downs country...and that of the Liverpool Plains we had just left on the Namoi. So much so that we made up our minds it wasn't good enough...but little did we think what that country was to turn out some few years after, when the stations on the Darling came to be stocked with sheep...so that the district became famous for fattening all descriptions of stock, and growing the finest of merino wool. 27

But as they said, the future was unknown and by 1866 independent concepts of the Warrego country were still undecided.

E) The character of the Warrego country in 1866

Such maps as existed in 1866 could give little more than a generalised outline of the study area, as in Figure 6. For the bulk of the country away from the frontages, the cartographer could do little but insert "low wooded country" or similar terms. Literary description, however, was more extensive if less precise, and we can attempt some generalisations from such sources.

a) The Climate: "frequently subjected to severe droughts"

In 1854, a writer who had been collecting material for a book on the northern and western districts of New South Wales summed up his findings on the climate of the Maranoa and Liverpool Plains Pastoral Districts. "In summer", he wrote, "the heat is oppressive" and the country "is frequently subjected to severe droughts".[28] No scientific records were available by 1866 to support him but the tone of other evidence suggests that the arid nature of the country was recognised from the first white contact. During the summer on the plains, night travel was always preferred as a means of avoiding the heat and flies of the day,[29]

and winter was the best season for surveying since temperatures were less oppressive and there was better chance of finding water.[30] Droughts on the plains were recorded in 1839, 1844-45, 1848-51, and 1865-68, while between these dates the seasons varied (according to the rainfall) from fair to the excellent conditions of 1859 to 1864, when heavy rains brought floods to permit navigation and nourish abundant feed for stock.[31] The drought which closed the period in 1866 was, however, considered more typical.

b) The terrain: "low level country"

Two adjectives summed up the Warrego terrain in 1866, Travellers had difficulty in finding a vantage point from which to assess the country, and even when successful could find little to break the monotonous horizon of Sturt's "low level country". Such relative relief as did exist was confined to the remote back-country away from the frontages and was only occasionally noticed. The interfluves between the Narran and the Bokhara contained stony ridges or "murillo" country and between the Culgoa and Warrego rivers were similar but more extensive sandy and stony ridges, all of low relief and barely disturbing the level horizon.

Lacking major relief features the drainage pattern was complex and disorganised. The two main northern tributaries of the Darling, the Warrego and Balonne rivers, branched out into many distributaries shortly after entering the study area and spread their shallow waters in time of flood far across the alluvial plains. Except in floods, little of their waters reached the Darling itself, being lost in the meandering creeks and billabongs which rapidly dried out into sandy hollows when the floods had receded. These plains, or inland deltas as they might be termed, were naturally irrigated, but the "irrigation" appears to have been so irregular that for most of the time they were little better than bare expanses of grey soil through which the courses of the creeks were marked by belts of woods. Occasionally the level was broken by low wooded sandhills which were later to be important stock refuges in time of flood, but apart from these and the slight depressions of the dry watercourses the general impression was of uniform plains stretching away indefinitely.[32]

The major point to be noted in the description of the terrain at 1866 was that the distinction between the level "irrigated" plains and the slightly higher flood-free country had already been established. With the exception of the ridges between the Narran and the Bokhara, the bulk of the country south and east of the Culgoa formed what Mitchell called "the vast basin of clay extending from

the Bogan on the south, to this river on the north, and westward to the New Year's Range and Fort Bourke." [33] West and north of the Culgoa were the higher sandhills and stony ridges mentioned above. Similarly on the Warrego, the distinction between the river flats and the surrounding sandy country was a basic feature of all descriptions.

Erosion, even at this early date, was observed throughout the Warrego country. Kennedy passed bare sand-dunes on his dash from the Warrego to the Culgoa in 1847 (Figure 6) and a traveller along the Darling in 1859 described whirlwinds carrying small bushes 100 feet into the air.[34] In 1835 Mitchell had commented on the dry powdered surface of the alluvial plains along the river,[35] and in 1866 the Culgoa was similarly described, being surrounded by plains of "loose shifting soil" bare to the wind.[36] Floods also must have played their part and on the Maranoa (a tributary of the Balonne River) had left an indelible impression on one of the early settlers:

> No one can imagine the thousands of tons of sand that were washed from the huge sand ridges on each side of the river banks [in the flood of 1864] and deposited on the flats and into the river bed, filling up magnificent waterholes... for which the Maranoa was famous. 37

Such evidence of inherent erosion will have to be borne in mind when we come in later chapters to examine the effect

of settlement on the Warrego environment; obviously we will not be dealing with changes which necessarily began with the arrival of the first white man, but possibly with trends which had a much earlier origin.

c) The vegetation: "low wooded country"

Over the bulk of the country stretched virtually a limitless woodland--at least that was the impression from the ground and from the few vantage points. Even the extensive plains, which would have been an important feature of any aerial view, were crossed by belts of woods which obscured their extent from an observer on the ground. Amid the bare plains which would be grassed in the next rains, or the saltbush flats along the frontages, an observer was rarely out of sight of trees. Tall coolabahs lined the main channels of the Darling, and the Barwon; less impressive specimens lined the waterholes along the Warrego and Balonne and occasionally dotted the courses of their distributaries. Open forests stretched two to ten miles back from the rivers, with grasses, saltbushes and herbages beneath.[38] Remote from the river frontages were sandy heaths and thick scrubs.[39]

Conditions, however, varied so greatly with the seasons that generalisations mean little, except possibly one that

the condition of the vegetation appeared, with the seasons, to be in a constant state of change. In 1847 and 1848 for example, the Darling River frontages were virtually a desert. The only stock-feed was found in the dry bed of the river; the plains were "white, shining, poor soil quite clear of vegetation" broken by sandy knolls of "spinous and bush scrub".[40] By 1850 the grasses had returned, along with "large saltbush plains" in place of the few "salsolaceous shrubs" of 1849.[41] In 1859 Captain Randell painted a rosy picture for the South Australian merchants, describing the Darling and Barwon frontages as very heavily grassed and "as thick and close in the bottom as the meadows of England."[42]

d) Summary

What conclusions can we draw from this examination of the fancies and facts concerning the Warrego environment at the time of its first occupation by the stockmen? By 1866 the outline of the most important feature of the Warrego country, its drainage system, had been sketched in. Most of the "permanent" sources of surface water were known and the country surrounding them had been explored. As might be expected in an environment which was recognised to be generally arid, the country beyond the frontages was

imperfectly explored and its character only vaguely known. To the stockman there appeared to be an over-abundance of feed for his animals in the good years, but little if any in the droughts. Unless, therefore, he had personal knowledge of the country he was likely to be misled if his arrival coincided with the good seasons. Opinions among the stockmen were undecided on the quality of the country and for their general reactions to the environment we must examine the sequence of occupation.

2) THE SEQUENCE OF OCCUPATION 1836-1866

Although the first white contact came in 1828, actual occupation was delayed until 1836, when the first depasturing licences were granted for country north of the Barwon River.[43] The period 1836 to 1866, moreover, was not one of continuous and steady occupation but can be subdivided into three phases. From 1836 to 1849 were years of discriminating but often only temporary occupation of the Barwon and Balonne frontages. A bolder advance into the alluvial plains of the Balonne distributaries followed from 1850 to 1858, while the final and most impressive occupation took place between 1859 and 1866. Before we examine these phases, however, a brief consideration of the approach of settlement to the study area will set our narrative in its spatial and temporal context.

A) The approach route

The approach to the Warrego country before and for some time after 1836 was from the southeast (Figure 5). The stockmen who were to pioneer the Warrego had brought their flocks from the southeast, through the Namoi and Castlereagh valleys which had been occupied in the late 1830s. The volumes of the Depasturing Licences issued at this time illustrate this channelling of settlement along these river frontages, which pointed the way to the Warrego country.[44] More than mere alignment of rivers was at work, however.

Although both Sturt and Mitchell had approached the Warrego from almost due south, their tracks were not to be followed by the graziers because of the threat from the aborigines along the Bogan and Macquarie rivers. Mitchell had lost a man in 1835 on the Bogan and as a result of this and other "outrages", settlement on the Bogan and Macquarie rivers below Warren was forbidden, since the authorities could not guarantee protection. The ban was in force from 1840 to 1858[45] and explains the channelling of settlement further to the east. To the east and north, astride the logical approach from the Darling Downs, which were already settled in the 1840s, were large bands of hostile aborigines "frequenting the dense scrubs which occupy the banks of the Lower Condamine and Balonne." "Already"

by 1849 "fatal collisions have taken place between the blacks and the whites in that direction".[46]

Coupled with the threat from the aborigines was a lack of water in the early 1840s particularly along the Bogan. The Commissioner for Crown Lands in Wellington District found in 1841 that the few stations along the Bogan and Macquarie rivers had been deserted because of drought.[47] Any approach from the southwest would have faced similar problems in an area which early reports had described as useless[48] and which by 1850 could claim settlement only along the lower Darling (below the present site of Menindie), and that established in spite of aboriginal attacks and high cost of carriage.[49]

Barred by waterless country and "wild blacks" from the routes pioneered from the south by the explorers, the pastoralists had little choice in their approach to the Warrego country and it is not therefore surprising to find that by 1836 they had established stations on the banks of the Barwon River only between the junction with the Castlereagh and the Gwydir rivers.

B) Frontier days 1836-1849

The expansion of occupation in the Warrego country along the banks of the Barwon River continued very slowly during the first half of this period and only by 1847 were

"the grounds on the Macintyre and Barwan rivers ... entirely taken up by the stations of the settlers in July 1847 having met from the eastern and western sides."[50] In the latter half of the period graziers were advancing to the Balonne River and its distributaries; by 1845 they had explored portions of the lower Balonne[51] and by 1848 at least two stations had been finally established on the Narran River.[52]

This occupation of country was effected by the graziers independent of any prior official survey, Mitchell's expeditions had skirted the area to the east in 1832 and the west in 1835 but he did not traverse the Warrego Country proper until 1846, which time there can be little doubt that the general features were well known to the local graziers. In fact he was provided with a sketch map of the lower Balonne by the Liverpool Plains Commissioner who had been on the river in 1845 to investigate the murder of some white men--presumably an independent exploring party. It is not surprising therefore, that in February 1846, the claim was made that the only area occupied was the country unseen by official explorers.[53]

By 1848 the extent of settlement on the upper Barwon and Balonne rivers was considered sufficient to justify sub-division of the unwieldy Liverpool Plains Pastoral District.

In 1848 two new pastoral districts were carved out of the northern portion; the Gwydir District centred on Warialda and the Maranoa District with headquarters at Surat. The bulk of the study area remained, in fact, within Liverpool Plains District until the separation of Queensland, but its remoteness from the headquarters at Tamworth caused administrative difficulties in the next decade.

a) The pioneers

The men who occupied the Warrego country appear to have been mainly agents for absentee pastoralists whose operations were conducted from eastern towns. The Depasturing Licenses occasionally gave the address of the licensee and for those runs in the Warrego country in the 1840s, the usual addresses were Sydney, Penrith, Windsor, Richmond and Maitland (Figure 5). When stock returns were sent out to the pastoralists in 1849, of the 25 men with property in the study area only 2 had the return addressed to their run in the area. The pioneers, in the sense of the men who first saw or put stock onto the country, were not necessarily those who obtained the license to depasture stock, at least in the years prior to 1849.

b) Security on the frontier

In this pioneering period of settlement the problems facing the pastoralists were considerable. While the approach

to the Warrego Country had been constricted by the threats from aborigines, settlement itself was affected. Attacks on stations along the Namoi and Barwon in the early 1840s were claimed to have resulted in a retreat of the graziers before occupation was "stabilised" in the mid-1840s,[54] and murders on the lower Balonne in 1845 have been noted above. In 1844 the Colonial Secretary wrote to the Commissioner for Liverpool Plains, noting a complaint from a stockman of "the want of protection afforded to stock-holders on the Barwin River",[55] and in 1848 the aborigines were still slaughtering cattle on the Barwon.[56]

Apart from the depredations of the natives, the "want of protection" applied equally to relations between pastoralists themselves. Cattle stealing appears to have been as much a feature of early settlement in the Liverpool Plains District as elsewhere. The Colonial Secretary in 1845 asked the Commissioner to investigate reports of stolen cattle, while a year later, the Commissioner, acknowledging a grazier's complaint that the nearest commissioner and magistrate were 400 to 600 miles distant from the Barwon, agreed that many stock had neither legitimate owners nor brands, nor were they ever assessed for taxation. The size of his district, however, gave him little chance of remedying the situation. The new districts of 1848 were an attempt to extend the required "protection".

c) Produce from the frontier

In the first nine years of settlement the dominant stock appears to have been cattle[57] and even for the cattleman the problem of marketing his product was acute. A surplus of stock about 1843-44, the result of rapid natural increases on the black-soil plains of the interior, had been responsible for the foundation of boiling down plants to extract tallow.[58] A by-product meat soup from these plants was exported to England to canvass a market, but although its preservation was a success, the price was affected by the 20 per cent import duty on "manufactured" goods and the project failed.[59]

Assuming that a market was available, however, transport was itself a major problem. This period of settlement saw two pioneer overland journeys with stock from the Warrego Country to markets in the south, but no satisfactory solution of the general problem. In March 1846, Bagot, a pastoralist on the Barwon, drove his stock south by the Castlereagh and Macquarie rivers to the Lachlan[60] and about one year later a grazier from the Namoi took his cattle down the western bank of the Darling to Adelaide.[61] Of the two, the Darling journey was perhaps the more spectacular since at the time the Darling was seen as the western frontier of New South Wales. It is doubtful, however, whether these routes were followed by the normal movement of stock from the Barwon, which seems to have been southeastwards, back

in the tracks of the initial advance. The overlanding of stock was at best risky. Bagot was lucky to get away before a drought closed the more conventional routes to the southeast, for "during the whole [of] this year [1846] few cattle or sheep could be sent from the interior by the proprietors from the scarcity of grass and water on the main lines of road under the ranges leading to the Boiling or Steaming houses."[62] Stockmen on the Barwon and Balonne could be isolated from their eastern markets by droughts--a problem facing them until the development of navigation on the Darling in the early 1860s and even then only partially solved.

C) Experiments on the frontages 1850-1859

The peripheral location of settlement in the first nine years of pastoral occupation was significantly modified in the following nine years. From the Barwon and MacIntyre the movement to the Balonne increased and the frontages of all the distributaries were applied for and in many cases actually occupied. During this period in fact, the bulk of the river frontages in the study area were applied for, but even in 1859 the runs on the river frontages were often islands in the midst of unoccupied country (Figure 7). In 1850 several tenders for runs on the Culgoa, Birrie, Bokhara and Narran rivers had been sent to the Liverpool

Plains Commissioner, who complained to the Colonial Secretary of the difficulties preventing him from inspecting the area. The runs, he said, were separated from the Barwon by a waterless region rendered even more of an obstacle by the current drought.[63] In many ways this mirrored the original settlement of the Barwon itself; the graziers were prepared to occupy watered country well in advance of the foremost previous occupation.

By mid-1850s several stations were established on the Balonne distributaries, although on the main river itself in 1855 some stations had been deserted.[64] Further west, the Warrego River, although "favourable for cattle runs", was not yet occupied. "The great distance from the coast, and from the settled districts will continue for some time to prevent occupation", was a contemporary comment.[65]

Alongside the expansion to the northwest came final occupation of the whole of the Darling frontages in the study area. According to the Maitland Mercury, by 1857 the whole of the Darling River land had been leased, but parts of the frontages below Fort Bourke do not seem to have been effectively occupied until the early months of 1859.[66] Captain Randell commented:

> From Mount Murchison [Wilcannia]... to Gunnawanna [at junction of Darling and Culgoa] a distance of 280 miles by land, Mr. Spence's station at Fort Bourke is the only run occupied for that distance, although I am informed, every inch is taken up. From the Falls [Brewarrina] upwards, including the Namoi and other tributaries, the country is completely occupied; stations occurring on both sides of the river every 5 or 6 miles, and heavily stocked with cattle. 67

At the time of his initial voyage, however, several stockmen were en route to occupy these frontages[68] from where, once established they explored the country away from the river to the northwest and discovered the lower reaches of the Warrego River.

In 1851 there were 33 owners of depasturing licences for runs in the study area, most of them holding their licenses as individuals for in only seven cases were runs owned by partnerships. Not only were the runs usually in the hands of only one man, but in most cases one run was the sum total of land leased by any one person within the study area. Only six owners held more than one run and four of these formed compact holdings of adjoining runs. Apparently the stockmen were merely testing the country for its pastoral worth before committing themselves to any large investment. In many cases, of course, the runs within the study area were only part of investments which covered a wide area; certainly pastoralists with runs in

the Warrego country at this time also had runs on the Namoi and further to the east, so that the holdings in the study area must not be considered in isolation from the rest of New South Wales.

By the end of this second period of settlement, in 1859, the rush to take up and occupy runs in the Warrego Country had just begun. The Commissioners for Crown Lands were deluged with tenders--a flood which was to increase with the separation of Queensland and the rush to take up land on more favourable terms in the new colony--and such of their records as have been preserved bear witness to this pressure of work. Alterations to estimates of size, changes in ownership through transfers or forfeiture of licenses, and reallocation of runs between the various districts, all point to the administrative problems posed by the sudden speed-up of land occupation coupled with a lack of detailed official knowledge of the area which was being occupied. Bearing this situation in mind, the figures noted below have only a limited value, since it is possible that more of the land was occupied or in process of being occupied in 1859 than the official records suggest. However, despite their possibly limited accuracy they do suggest trends which were confirmed later.

From the records of licenses available, there were 46 owners holding runs in the study area in 1859. This is probably an underestimate as in some cases up to two or three years elapsed between the first tender for a run and the final acceptance and grant of license, but at least it is not an exaggeration. Of those 46 owners, 36 were individuals, while nine were partnerships and one a company. The small increase in total number of owners illustrates that the rush for land had only just begun, but the proportion of individuals having depasturing licenses had dropped from about 81 per cent in 1851, to 78 per cent in 1859. Again, this is not spectacular, but represents the beginning of an important trend. By 1859 also, the size of holdings was tending to increase, for of the 46 owners, 27 held only one run, while 19 had two or more runs within the study area. The owners of single runs had been 82 per cent of the owners in 1851, but by 1859 they had dropped to 60 per cent. Not only were partnerships becoming more common, but the amount of land held by each owner was tending to increase and to represent in fact a larger investment in the Warrego Country.

D) The land boom 1860-1866

That this period is composed of six years and is therefore shorter than both the preceding and succeeding

periods is inevitable and important. Within this short span of years new land was occupied at a rate which was unprecedented and never again to be repeated. For these years the pace of the history of settlement is quickened, for the first time the bulk of the study area is applied for and large portion (over three-fifths) occupied, if only temporarily; for the first time also some attempts are made to test the back country.

As we have suggested earlier, during this period parties of independent explorers scoured the frontages and portions of the back-blocks, pausing only to send off their tenders for the country they had seen or thought they had seen. In their city offices, the speculators drew out their maps of the official explorations and pencilled in their claims. As one old resident put it, "everyone was infatuated with the desire to possess a run in Queensland."[69] By 1860 the tenders for frontages to the Warrego River were pouring in to Brisbane and an enquirer in October was told that, "the greater portion of the country on the banks of the Warrego has been tendered for." [70]

a) Speculation on the back-country

The country had, indeed, been tendered for, often two or three times over, so that there was considerable delay in granting permission to occupy. The Queensland Commissioner

was facing the same problem confronting the New South Wales officials, lack of knowledge of the country. In view of the number of conflicting nature of the tenders, it is not surprising that in many cases pastoral leases were not confirmed until 1862. For the speculator, however, confirmation of his tender was immaterial since at the height of the boom it could command a sale price irrespective of its legality.[71] For the bona fide occupier, the delay was a source of anxiety and discontent in a situation already confused.[72] To cope with the spread of new occupation both New South Wales and Queensland, in 1864, created a new administrative unit and, significantly, both units were entitled the "Warrego Pastoral District".

b) Drought and the retreat to the frontages

In the first rush to lease land, particularly in the new colony where the legal conditions for pastoral occupation were more attractive than those in the older colonies, it was not surprising that country was applied for and occasionally stocked, only to be abandoned at the first sign of adverse conditions. For the bona fide occupiers and the speculators, the drought from 1865 to 1868 was a serious setback.

Away from the frontages natural water supplies were scarce, but, as we have seen, the first four years of the

sixties were good seasons of abundant rainfall and luxuriant vegetation when occupation was facilitated. With the commencement of the drought in 1865, however, the face of the Warrego country changed once more, and in December a survey along the 29th latitude from the Barwon westwards found the country deserted and dead sheep everywhere.[73] Occupation of the unwatered country had been brief and disastrous. By 1866, after the experience of the drought, speculative tenders for such country would be worthless.[74]

c) Occupation in 1866

As a result, the detailed picture of occupation had, if not stabilised, at least steadied by 1866; the occupiers as mapped on Figure 8 were in fact the survivors after the dust of the initial stampede had died away. The map is in effect a simplification of a situation originally much more complicated, yet a simplification by no means complete even in 1866.

Examination of the map shows that not only have the numbers of owners virtually trebled since 1859, 128 compared with 46, but those owners control many more runs, and runs which are not compact holdings but spread widely over the area. Only 30 of the 128 owners held only one run, a

decline from 60 per cent in 1859 to 23 per cent of the total. Most owners had more than one run, and in most of these cases (63 out of 97) the runs were separated, some being over 100 miles apart.

Where the runs under the same ownership were separated, they were usually in two portions but there were instances of more complicated combinations and in two cases each owner had six different portions of land leased within the study area. The location of these separated runs suggests that runs on the Barwon frontages were usually held in conjunction with runs on the country between the Culgoa and the Narran rivers. Historically, this division of property represents an advance from what might be termed a "base" on the Barwon, into the black-soil plains between the Culgoa and the Narran. Pastoralists with runs on the Barwon were interested in the black-soil plains to the northwest, but, as the map shows, they were competing with many others for what was apparently considered some of the best country in the area.

Where several runs were held in one compact holding or at least adjoining (34 of the 97), the largest holdings were located in the west of the study area, particularly along the Warrego. That one man could obtain a lease for such a large stretch of country suggests that the pastoral qualities of such country were not highly regarded. Certainly in comparison with the Culgoa-Narran country it would not

seem to have been so attractive to pastoralists. Further, the fact that certain areas in the west had not yet been officially leased out is itself a commentary upon contemporary ideas of its pastoral quality.

Owners of single runs were scattered widely in the eastern portion of the study area but were virtually non-existent in the west. In most cases, these single runs were on river frontages and on the Barwon they included runs which had been in the same hands since the first tender. Even by 1866, however, such runs were few and the single run owners in 1866 were not necessarily those owners who had been longest in the area.

Although the owners of single runs had declined proportionately from 1859 to 1866, the proportion of individuals owning leases remained about the same, being 78 per cent in 1859 and 76 per cent in 1866. Of the remaining 24 per cent of the owners, most, in 1866, were partnerships, for banks held only one lease in the area. For many of the owners, the Warrego country was only a portion of their pastoral interests and in 1866 at least 19 of the 128 owners had interests outside the Warrego.[75]

d) Old problems

The problems facing the stockmen at this time were mainly inherited from previous years. The aborigines, although subdued, could still make settlement hazardous.

In this respect it is interesting to note that the printed account of Landsborough's journey down the Warrego in May 1862 does not mention the murder of a hut-keeper on one of the sheep stations; he did note the incident in his diary but it was probably suppressed as bad publicity for the country.[76]

The cattle "duffers" were still active and the Warrego was claimed to be a centre of their activities in 1865, when a petition from the Queensland Warrego District complained that the district "has become the refuge of horse and cattle stealers, and other lawless vagabonds of the worst description."[77] A year later, the Queenslander reported that "between the Culgoa and the Warrego [rivers] is an extent of country 80 miles across... [where] there is not the slightest doubt that a large business is now being done...by the removal of stock to these back waters, and when opportunity offers, pushing them on to the Barcoo and the Thomson, and often as far as the Flinders and the Gulf [of Carpentaria]." Sly-grog sellers were "the curse of the district", the report went on, and forged cheques abounded.[78]

The opening of river navigation did not solve the problem of high cost of carriage away from the river. One capitalist investigated the prospects of investment in Queensland in 1862:

> but when I ascertained the price of carriage and the rates of labour, I concluded that it would be unsafe to invest there. In a few years afterwards people who did invest there were ruined, and had to give up their properties to the Banks. 79

The overland routes were still preferred for moving live stock, mainly along the traditional southeastern road, but there were occasional movements to the southwest along the route pioneered in 1847.[80]

e) New towns

With the rapid increase of settlement in the Warrego Country early in 1860-61, serious consideration was given to the provision of urban centres to cope with the growing volume of trade to and from the area. The New South Wales Surveyor General in February 1861 asked the surveyor, at work in the area, for his opinion on

> the most eligible site for a Town and Place of Petty Sessions on the Darling River. The Petty Sessions to be for the country on the Darling about half way from the proposed place to Walgett; and for the Culgoa Birie, Ballandool and Warrego Rivers and also for the Lower Bogan River Country and Lower Castlereagh downwards to about midway to Menindie. 81

In the following April, Surveyor Arthur was reminded of the request, for the town was needed to "meet the traffic coming from the Western District to the Darling."[82] As a result,

both Bourke and Brewarrina were laid out in 1861, Bourke to serve the western trade and Brewarrina as the head of navigation. The latter, however, was not thought to have as important a role as Bourke, and the town plan was deliberately only half the size of Bourke's.[83] Walgett had been a post town some time prior to the foundation of Bourke, and in 1854 had a store and post office,[84] while in Queensland, St. George had been gazetted a township in 1863 (Figure 6).

Of these centres, Bourke soon began to dominate the upper Darling and in 1863 was supplying part of wouth-western Queensland also:

> The trade of the Upper Warrego [River] proceeds towards Rockhampton, while the Lower Warrego and westward of that receives their supplies at Fort Bourke, where they are brought by steamers from Echuca (Victoria) and Goolwa (South Australia). 85

River navigation was the secret of Bourke's success and by 1866 there were 300 people in this the largest centre on the upper Darling River. In contrast, the overland route to the southeast was slow and uncertain and the mails still came in on horseback.[86]

f) Summary

From our narrative of the sequence of occupation certain points are outstanding. It is obvious that this

pioneer phase of occupation was a time of trial and error, a time when stockmen took up as much country as they could afford in an attempt to find that most suited to their requirements and possibly provide the means for speculation later. The most attractive country appeared to be the plains between the Culgoa and the Narran rivers, where favourable seasons at the time of occupation had encouraged strong competition for the frontages. In contrast, legal occupation of the drier back country had been less successful; illegal occupation appeared to pay better. As a whole, by 1866, although suffering a temporary setback from the drought, the Warrego country served by the Darling navigation appeared to have a fair prospect for pastoral development.

3) THE APPRAISAL OF THE PASTORAL POTENTIALS

Appraisal of the potentials for pastoral development before 1866 can be illustrated from two sources. First is the method by which the land was actually used, the stock involved and the intensity of use. This will reflect both outside stimuli in the form of markets for products and local assessments of the ability of the country to meet these stimuli. Second is the assessment of land for taxation purposes, an illustration, however crude, of what

the occupiers were prepared to pay for the privilege of using the land. Here, as in previous considerations, fancies may be as important as the facts.

A) The stocking of the Warrego country 1836-1866

a) The Sequence

Of the three animals considered by the New South Wales stockmen for development of the semi-arid plains in the first half of the nineteenth century, horses and cattle were generally preferred to sheep. The reasoning was based upon the relative ease by which the product could be removed on the hoof without expensive carriage, a smaller investment of capital, and a supposed superior tolerance of the pioneering environment.[87]

In the Warrego country opinions on the relative merits of the three animals differed. Horses appear to have been the pioneer stock on some Warrego River frontages,[88] but elsewhere the rivalry was usually between cattle and sheep. The explorer Kennedy had suggested in 1848 that cattle needed better watered country than sheep,[89] but some opinion suggested cattle could be grazed farther from water and were therefore better adapted to the dry country.[90] The cost of stocking with sheep, moreover, may have been more expensive than cattle and to men unwilling to risk capital in uncertain country cattle may have been more attractive.[91]

The early dominance of cattle over sheep is therefore a logical trend in an area where the process of development had just begun and the knowledge of conditions was limited. This dominance, noted in part 2 above, was continued in the 1850s[92] but the arrival of Randell's steamer in 1859 encouraged some of the pastoralists to consider a change, since the problem of costly carriage had apparently been solved.[93]

With the rapid expansion of the occupied area after 1859 came sheep. Along the Darling frontages in November 1861 the sheep had already displaced cattle below Fort Bourke and the changeover was in process higher up the river.[94] When Neilson described the valley of the Warrego River in 1863-4, sheep stations stretched from the Darling beyond the Queensland border.[95] Estimates of the stock which could be carried in the study area had jumped from the 1859 figures of 39,000 cattle and 28,000 sheep, to at least 94,000 cattle and 600,000 sheep in 1866.[96]

If, by 1866, there were any definite ideas on the type of country best suited to the different kinds of stock, they have not survived. Using the estimates provided in 1866, the location of runs capable of carrying sheep or cattle was mapped and compared with the map of the Warrego country (Figure 2). There appeared to be no coincidence

of either sheep or cattle runs with any specific type of country and from the frontages to the back-blocks, either sheep or cattle were thought suitable. It is possible that the good seasons had so watered the back-blocks that the supposed advantage of cattle over sheep had been negatived, or that speculation had so encouraged the stockmen that they were prepared to try their stock in any kind of country,[97] but this itself is only speculation on our part and the fact remains that there appeared to be a choice within the area occupied in 1866, of either cattle or sheep.

b) The densities

Official estimates of the carrying capacities of the plains set a figure of 4,000 sheep on 25 square miles in the 1847 Orders-in-Council, but while this was continued in New South Wales throughout this initial period of study, in Queensland a more liberal estimate of 100 sheep on one square mile had been adopted in 1860.[98] Thus in New South Wales four acres were thought sufficient per sheep, while six and one-half were thought necessary in Queensland. Actual stock densities, however, appear to have been much less than these figures.

Using the estimates of carrying capacity in the tenders for runs and depasturing licences and dividing the stock [99]

into the area for which tenders had been accepted, we can gain a rough estimate of the minimum density of stocking thought possible at this time. In 1849 the first estimate gave the carrying capacity as one sheep to every 10 acres, but by 1866 the figure had increased to one sheep on every 8 acres. It is very doubtful whether these densities were ever reached in these years and all the evidence suggests that most stockmen had difficulty in meeting even the minimum requirements of one quarter of the official stocking rate.[100] While the stock had not reached the estimates, the estimates themselves pre-1860 were generally less than half the official carrying capacities, and even by 1866 the density of stock in the Warrego country can nowhere have been great.

In detail, the estimates of carrying capacity in 1866 provide some clues on the evaluation of country. It is possible to draw a cross-section along the New South Wales-Queensland border showing the estimated carrying capacities as in Figure 12.[101] This, a more detailed source of evidence, suggests that there were definite ideas on the varying capacity of the country to support stock. The plains between the Culgoa and Bokhara rivers formed the largest area of good quality country, able to carry at least 25 sheep for every 100 acres and occasionally twice that number. By comparison the frontages of the Warrego

and the Barwon had only a limited area of similar capacity, and back from the frontages the capacities were thought to deteriorate rapidly.

Although the evidence points to a density of stock far below the official minima in 1866, there were already some attempts to increase the capacities by improving the facilities. The main concern was with water supplies and though little appears to have been done by 1866, merely a few dams on the Warrego River,[102] these were to be the beginnings of an important trend in local opinions. To meet the problem of drought, the first reaction was to improve the water supplies.

B) Taxing the Potentials

For the privilege of occupation the New South Wales stockmen paid a rent based upon a minimum fee for occupation, together with an assessment on their stock carried. After 1861 the total minimum occupation fee had been set at 0.45 pence per acre in New South Wales, while in Queensland without an additional stock assessment, after 1860 the minimum fee was set at 0.18 pence per acre. As with the stock capacities however, it is the variations from these figures which are of interest to our study. Where more than 16,000 acres were thought necessary to support 4,000

sheep or equivalent cattle, the actual rent per acre would be less than the official minimum, and, in the other extreme, if more than 4,000 sheep were depastured on those 16,000 acres the actual rent would be above the minimum and would represent country of apparent above-average quality. What then was the picture in 1866?

The map of rents in 1866 (Figure 9) and the cross-section of rents along the 29th Latitude (Figure 10) show a contrast, as might be expected, between the Queensland and New South Wales rents. The generally lower trend of rents in Queensland reflects partly the higher minimum (unstocked) rent (0.18 compared with 0.15 pence per acre) but mainly the absence of an assessment for stock. Apart from this proviso, the rents do provide a crude evaluation of land quality as it was seen at the time.

Where rents were less than the official (unstocked) minimum the land was obviously considered to be relatively inferior, but for land assessed at more than the official fee for land carrying the minimum stock, it is less easy to see this as purely a reflection of superior natural quality. The quality of the land may have been partly responsible, but it is possible that the block was carrying more than the minimum stock and was therefore paying some additional assessment on these animals. In the case of blocks paying more than twice the minimum rent of stocked

country, it seems likely that some addition may have been made for the presence of headstations and stock yards,[103] i.e. an assessment of an "acquired" or "improved" value. Even so, the land was considered to be superior to less highly assessed country and if the superiority rested upon more stock or the presence of "improvements", what were these but evidence of the superior pastoral value of the land?

The highest rents and that land which might be tentatively labelled the "best" for pastoral purposes lay along the frontages where, with the "fair" pastoral land, it occupied a significant proportion of the Barwon and Balonne flood plains. The quality of the frontages was uneven, however, and even on the Barwon, where occupation had been longest and we could hardly expect a shortage of stock to be responsible, some of the frontages were relatively poor. The "poor" country, that country paying a rent above the minimum for unstocked country but apparently carrying less than the minimum required stock, filled in the remaining frontages with the exception of the lower Darling and some of the country along the Balonne and upper Culgoa-Narran system. Here was some of the poorest land to be rented, carrying rents which were normally only found on the back country, away from the river frontages.

While in most cases the key to pastoral land value at this date appears to have been the river frontages with their relatively constant water supplies, this is an anomally as yet inexplicable, unless the frontages here were very badly watered. This anomally, however, does not detract from the general picture which is of islands of highly valued pastoral land along the frontages separated by expanses of inferior and, for pastoral purposes, negative country.

4) SUMMARY

The pioneering phase of occupation in the Warrego country was characterised by trial and error, a period when imperfect knowledge and limited experience meant success for some of the stockmen and ruin for others. Apart from the individuals who traversed the country in increasing numbers after 1836, the official and general knowledge prior to 1859 was unfavourable for great stress was laid upon the general lack of water. The creation of the new colony of Queensland together with the opening of the Darling navigation brought a new interest in this portion of the plains, and as a result of their experiences in the good seasons which accompanied their traverses, many bona fide stockmen took up leases in the face of considerable competition from speculators to whom the

quality of the country mattered little. The first dry season of 1865 disposed of many of the speculators along with many bona fide men who had been encouraged to stock the poorly watered back country. Yet on the frontages, already relatively highly valued, the occupiers held on, although it is possible that even here they were beginning to realise the need for further investment in improving their water supplies, if their occupation was to be permanent.

CHAPTER 5

CONSOLIDATING 1867-1883

Knowledge of the Warrego country prior to 1867 had rested upon four main sources of information, but after this date only three were of practical importance. As a result of the previous exploration, enough was now known of the general character of the country to remove the initial concern for the aboriginal concepts. The expansion of pastoral occupation which characterises this period, therefore, needs to be seen in the light of the extension of official, popular, and particularly the independent knowledge of the Warrego country.

1) THE ENVIRONMENT: MORE FACTS AND FEWER FANCIES

A) Official concepts

Expansion of official knowledge of the Warrego from 1867 to 1883 was limited. Apart from the piecemeal survey of runs for assessment of rents, which did little more than establish the run boundaries on the ground,[1] the main sources were the completion of the New South Wales-Queensland boundary survey in 1881 and reconnaissance surveys of south-west Queensland in connection with proposals for a trans-continental railway.

The boundary survey west of the Warrego River merely completed the demarcation of the boundary line and afforded little in the way of description, but must have brought home to officials in both colonies, the unattractive character of country where "water...had to be carted in some cases upwards of 50 miles", and where "owing to the impossibility of obtaining proper food and vegetables, the [surveying] party suffered very severely from scurvy." [2] If this was the plight of a party briefly traversing the back country, permanent occupation was likely to be even more hazardous.

Proposals to link Brisbane by railway with either the Gulf of Carpentaria or Adelaide had initiated surveys of southwest Queensland at about the same time. In contrast with the boundary survey, these reports were generally favourable. Along the middle and lower courses of the Warrego River in Queensland was "rich black soil" and few difficulties (except possibly floods) for the engineer.[3] A variety of country, "open river plains, creek frontages, mulga scrubs, low dividing ranges, sandhill country, polygonum flats, box, gidyah, yapunyah, and scrub forests" would ensure that respective localities would be "suitable for either cattle, sheep, or horses, as the case may be." [4] At this time the remote back country appeared to be more attractive in Queensland than in New South Wales.

B) Popular concepts

The first complete popular descriptions of the study area became available in 1876 when Reid's Essay on New South Wales and Whitworth's Gazetteer for Queensland appeared. The New South Wales portion of the study area lay within the "Saltbush Division" where extensive level plains of saltbushes and herbages were broken only by low sandhills and stony ridges.[5] In Queensland Whitworth confirmed earlier official and independent sources and described the lower Warrego as flowing through "low flat country with pine sandhills, sparsely grassed and lightly timbered with mulgoa [sic], gygher [sic], box-pine, bloodwood, and beefwood, the belts of timber alternating with alluvial flats and sandy plains."[6] Sometimes his descriptions were erroneous[7] but generally they gave accurate information. The impact of these general sources, however, was not great. The general public had still only a very limited knowledge of the western country in 1883;[8] as yet there had been no event of national importance to draw attention to this portion of the inland.

C) Independent concepts

In contrast to both the official and popular concepts, independent knowledge of the Warrego country expanded considerably from 1867 to 1883. Representative of an

increasing element in this independent knowledge were the activities of agents of the Australian Agricultural Company, which in the late 1870s and early 1880s was seeking a pastoral outlet for large English investments. The company was particularly anxious to secure country on which it could raise sheep for wool, and several properties north of the Darling and as far out as south western Queensland were examined, good cattle country being overlooked.[9] Leasehold property free from the threat of selection was preferred, although there were difficulties in New South Wales, where such properties were only found beyond the Darling.[10] The company was anxious to have a rapid return on its investments, and was therefore more interested in going concerns than in developing virgin country.[11] With these prerequisites, what were the reactions to the Warrego country, which figures largely in the investigations?

As potential sheep country the Warrego area had a good reputation, for local opinion had been impressed with the apparently successful improvement of the back-country northwest of the Darling. The company agents always consulted local opinion, for "general report in this respect is no mean criterion: and any foolish expenditure or lavish uncalled for outlay is generally done full fustice to by the tongue of rumour."[12] In 1875, a lessee on this

back-country had boasted that his run carried feed "which is the very best that could be had for sheep consisting of first class salt and cottonbush plains with belts of Boree and other low scrubs suitable and necessary for sheep [as shade] in hot weather."[13] A company agent, Nisbet, inspecting in 1881, agreed that "all this country--if sufficiently watered, will prove sound and healthy for sheep."[14]

Yet the company's inspectors were not always in agreement with local opinions or the extravagant claims of stock and station agents. The Culgoa country had been praised to Nisbet in May 1881, but he was not impressed by his inspection in June; the country had not been improved and, although well grassed in parts, large areas of useless scrub extended northwest of the river.[15]

For the purposes of the company, however, the study area was superior to more remote portions of western Queensland and the agents suggested investments here.[16] Their favourable opinions must have been echoed elsewhere since as we shall see, the early 1880s saw considerable investment of private capital in the study area.

D) <u>The character of the Warrego country in 1883</u>

From our three sources we can summarise the contemporary view of the Warrego country at about 1883. Although lacking

the detailed view which was to come in the first few years of the next phase of settlement, ideas had developed since 1867 and might be summarised as "more facts and fewer fancies".

a) The climate

After years of hearsay and individual opinion, scientific observations began with the installation of rain gauges in 1871 at Bourke and 1879 at Cunnamulla. These two were the first of many to be introduced to the Warrego country and by the early eighties most of the larger properties could boast at least one and some even more. Interest was more than merely official[17] and prospective buyers began to expect rainfall records with brochures of impending property sales.[18]

Such records as had been accumulated by 1883 confirmed what had been noted previously, that rainfall was not only seasonally erratic, but extremely variable in its spatial distribution in any one season.[19] This local variability was a source of surprise and discomfort to new-comers who applied local conditions to a much wider area than was justified.[20] As a whole, however, the problem of drought was not great during this period and from 1869 to 1874, and 1878 to 1881, were good seasons with floods on the main rivers and abundant feed.[21] Not all opinion, indeed,

saw drought as a calamitous Act of God. In 1882, the surveyor Watson summarised his findings on southwest Queensland:

> what by some people and those who do not study the physical laws of the interior of Australia may be considered a drought is but a provision of nature for the improvement and increased fertility of the soil by pulverisation from exposure as well as suspension of vegetation.[22]

The pastoralist, however, with starving flocks, would cast a baleful eye on such an expression of Nature's foresight.

Along with rainfall, temperatures were the object of some concern in this period. The high summer temperatures continued to worry sheepmen who feared that, as a result, the quality of the wool would deteriorate. A pastoral inspector of New South Wales writing in 1876, forecast that in the "Saltbush Division" the high temperatures would produce coarser wools,[23] and one of Australian Agricultural Company agents suggested that the Darling "is not a country where you can expect to grow a high class of wool."[24] By 1883, however, there were many pastoralists in the Warrego country who through their investments had shown that they were prepared to take this risk.

b) <u>The terrain</u>

In 1883 the New South Wales Committee of Inquiry had divided the study area south of the Queensland border into

two types of country. The best land for pastoral purposes was the first class black soil saltbush country on the frontages, while most of the back-country fell into the third class red sandy scrub country.[25] Here was the initial distinction between the flooded and unflooded country, noted prior to 1866, defined in more precise terms and the country classified according to its general value to the pastoralist.

In detail, by 1883, the natural irrigation of the Warrego and Balonne river systems had been recognised to be a great asset to the country,[26] but of much greater importance for the future of the pastoral industry in the study area was the discovery of artesian water supplies. In 1879, the New South Wales Astronomer, H.C. Russell, published a paper forecasting large supplies of subterranean water in the Darling Basin and, in the same year the first successful deep well was drilled.[27] Lack of adequate equipment appears to have delayed boring operations, but by 1883 drilling was widespread in the study area and the optimists, with an eye possibly to future property sales, were anxious to publicise all successes.[28] The importance of the subterranean supplies was to be particularly important after 1883 when improved equipment both speeded-up operations and enabled drilling to be

continued at greater depths, but already by 1883, the knowledge, or at least the hope, that water existed beneath the bulk of the area must have encouraged capitalists already interested in the Warrego country to invest.[29] The salvation of the back country appeared to be at hand.

c) The vegetation

There were signs by 1883 that the Warrego vegetation was showing the effects of continuous stocking. The changes were the more serious since they were affecting the best country, the alluvial frontages. Here, where stock had been grazed longest, the extensive grass and saltbush plains showed some deterioration. The Darling and Warrego frontages dismayed Nisbet in 1881:

> The grass seems to go away utterly, there is no saltbush or cottonbush anywhere in sight of the frontage and the paddocks which have been any way heavily stocked are bare as the roadway-- The grasses do not stand here like the Barcoo grasses... [of southwest Queensland]....here the whole thing goes completely and seems to grow again from seed after rains. 30

The isolated sandhills which had been heavily grazed were "but a heap of bare sand which glows in the sun like red bronze." [31] During the drought of 1883 the Darling frontages were a sorry picture:

> As far as the eye could see were swampy plains, dotted with a little straggling salt and bluebush, from which a few disconsolate sheep were deriving a miserable subsistence, intersected here and there by spires [sic] of sandhills. 32

This was not the only side of the picture, however, away from the frontages there must have been large stretches of country which even by 1883 had not been grazed at all by domestic stock, but in the areas originally most attractive there appeared to be significant signs of deterioration. Even on some of the back-country, erosion as a result of grazing had already been noticed.[33]

2) THE SEQUENCE OF OCCUPATION 1867-1883

After the hectic scramble for leases in the early 1860s, the pace of land occupation for the first few years of the period 1867 to 1883 was comparatively slow. By 1883, however, the final and relatively stable occupation of virtually the whole of the study area had been achieved and the large properties which were to influence the future character of pastoral occupation had been established.

A) Lease or freehold?

Opening in drought, it is not surprising that the first few years of the period were times of stress among the surviving lessees. With the drought were allied declining wool prices (Figure 4) and a general disillusionment

with the pastoral prospects. As one pioneer commented, "stations and stock had fallen to extremely low prices; wool was low and wire fencing was not yet general." [34] The result was the first of a series of petitions asking for relief.[35] The Warrego tenants in Queensland petitioned in 1869 for extensions of their leases and a moratorium on rents at the minimum of ten shillings per square mile.[36] They gave as their reasons for seeking relief, the occurrence of drought, and the high costs of labour and transport compared with their returns from wool,[37] but there were other facts in their predicament.

A petition from the bankers and merchants of Sydney in the same year, suggested that over-optimistic development of the country (resulting from too great a reliance upon southern experience) had led to overstocking, and that losses would be inevitable unless costly improvements of water facilities were made. In the rush to occupy the Queensland country the pastoralists had been forced to use poor stock, the only animals available in the boom, and returns of wool had been low and losses high as a result.[38] Despite the relief afforded by the 1869 Act (No.10) several of the Queensland runs in the study area were forfeited in 1870.

The distress of the early years proved only temporary, however, and with rising wool prices and better seasons the

early 1870s brought back the speculators as well as the bona fide stockmen. In 1874 the back country northwest of the Darling was being occupied once more[39] and this must have been part of a general movement into the back country, for by 1879 (see Figure 13) the bulk of the study area was under lease.

By contrast, the attempt to settle small freeholders in this western country, after the acts of 1860 and 1861, had been generally unsuccessful. Alienation of land for freeholds had proceeded so slowly as to be virtually non-existent. The larger area sold by 1882 was in the New South Wales portion, but even here it was but a minute fraction of the total area.[40] In fact the freeholds had rarely been obtained for agricultural or pastoral purposes, but were either attempts to secure leaseholds against blackmail from speculative selections, or "for the formation of roadside public houses, or on the part of the Crown tenant to prevent that kind of occupation."[41] The lessees were masters in their own house in 1883.

B) The lessees

The extension of pastoral occupation to virtually the whole of the Warrego area between 1867 and 1883 was accompanied by significant changes in the character of leasehold ownership. A cross-section of conditions in

1879 is illustrated in Figure 13 and Table 4 and represents the trends which were evident by the end of the period.[42] The spread of pastoral occupation was parallelled by an increase in the average size of holdings from 100,000 acres in 1866 to over 250,000 acres in 1879; a figure five times the average for 1851. With the larger holdings came fewer owners and the banks, which in 1879 had control of about one-tenth of the total area.[43] Despite the increase in area leased, the total number of lessees declined from 128 in 1866 to 83 in 1879 and part of the loss must be attributed to this expansion of bank ownership, particularly at the expense of individuals who were the only type of owner to suffer significant loss of area controlled from 1867 to 1879. Partnerships fared better while companies declined slightly.

By 1879, the days of the single run holding were almost done. The area under compact holdings was expanding and the area of the fragmented holdings falling in compensation. Consolidation of leases seemed to be the dominant theme; already the outlines of the holdings which were to be subdivided after 1884 had taken shape, and the old picture of a discriminating scatter of leases through the study area was rapidly fading.

a) New men

Changes in the spatial distribution of ownership were accompanied by continued changes in the time sequence. The data of lease-ownership continuities, Figure 14 and Table 20, show that by 1879 the original owners had disappeared from the scene. Of the original 33 men in 1851, only one remained in 1879. Similarly, only 3 per cent of the "new men" of 1859 and only 15 per cent of those from 1866 had survived. Even allowing for deaths and the limitations of the figures, this represents a significant turn-over in ownership. Apparently, in 1879, only 30 per cent of the owners had been longer than 13 years in the area, 70 per cent were "new men". Yet over this period from 1866 to 1879, while an average of 4 new men were coming into the area each year, 8 were leaving, giving a net loss of 4 men each year. How can we explain this trend, was it a sign of failure or success?

b) Larger properties

One obvious explanation lies in the changing sizes of holdings. In 1851, 60 per cent of the holdings were less than 50,000 acres; in 1859, 54 per cent; in 1866, 41 per cent, and in 1879 the figure was 26 per cent. Conversely, holdings of over 250,000 acres first appeared in 1859, were 5 per cent of holdings in 1866 and 30 per cent in 1879, when there were three holdings of over a

million acres. Further, the few owners who stayed long enough to be included in the cross-section dates, generally increased their property throughout their stay. Apparently the few were acquiring the leases of the many, but by what means this source does not show.

Drought losses and forfeiture or mortgage to the banks might account for part of the decrease in total owners. If we accept bank ownership as an indication of failure to meet financial commitments, the map of occupance in 1879 (Figure 13) shows that the country between the Barwon and Narran rivers had suffered considerable failures. The Culgoa-Narran frontages were not much better and both black soil alluvial country and red sandy back country had suffered financial failure of some kind by 1879. But to place all the blame for the trends in ownership on this factor would be unrealistic. The continuous and fairly high rate of transfer of leases suggests not a sudden catastrophic change of ownership over a wide area, but rather a continuously open market where, depending upon the attraction of property at the time, the leaseholds were continually and voluntarily changing hands. There is moreover, some evidence of this voluntary action from the timing of the transfers themselves. Table 5 shows that many of the transfers were made in the good seasons

when there would be leaat excuse for financial failure or forfeiture. If the transfers were mostly made at this time this would explain the survival of the few at the expense of the many; what appears to have happened was that the small pastoralists sold out to their neighbours or local men who went on accumulating land until, either their holdings were subdivided after 1884, or they sold out to "foreign" capitalists who were prepared to invest large sums in the country.[44]

C) Regional development

Although the previous period had seen the foundation of trading centres along the Darling River, the years from 1867 to 1883 were to see the real growth of the towns. With the investment of capital in the pastoral properties came an increasing workforce,[45] the river trade boomed despite drought hindrances and the New South Wales Government agreed to improve navigation after 1880 even though it stood to lose the trade of the region.[46]

Bourke, which had grown steadily since 1866,[47] was the object of considerable competition from all the great ports, whose merchants coveted the expanding trade from the Warrego country. Proud analysed the situation in 1883:

> Queensland merchants are making strenuous efforts to get the trade of this part of the Darling, as it is equally distant from Adelaide, Sydney, Melbourne, and Brisbane. When the Darling is navigable, Adelaide will do the greater part of the business, but when it is not the necessary stores will probably be carted from Bourke or some point on the railway to that town. 48

He considered that Bourke's monopoly of regional trade would be challenged by the Queensland railway which was approaching Charleville, and its function as a river port would be hit by the arrival of the New South Wales railway. Others were more hopeful:

> The railway [at Bourke] will catch not only the wool from the stations between Dubbo and Bourke...but it is a centre to which will be attracted all the wool from the Warrego River Country, and beyond the Warrego where there is a succession of vast stations. 49

In 1883, however, the railway was still some distance from Bourke and there was no serious threat from Charleville.

The Warrego country had become the centre of a radiating network of routes as early as 1876 (Figure 15) and in 1879 traffic from Queensland was crossing the Narran, en route to the railhead to the southeast.[50] Between 1879 and 1883 a weekly mail-coach linked the main towns[51] and along the route the small hamlets were augmented by the regular mail-change stations and served as nuclei for small villages serving both travellers and the adjacent leaseholds.[52]

Regional development was well under way by 1883, but future trends would have to depend upon the contemporary assessment of the pastoral potentials.

3) THE APPRAISAL OF THE PASTORAL POTENTIALS

A) The stocking of the Warrego country 1867-1883

a) The sequence

From 1867 to 1883 were years of steady increase in stock numbers. Both sheep and cattle totals grew as new occupiers brought in their stock and the natural increase enlarged the numbers already present. A particular feature of the period was the increasing importance of sheep; in New South Wales the ratio of sheep to cattle increased from 3: 1 in 1867 to 50: 1 in 1883; in Queensland the trend was less spectacular, rising from 3: 1 in 1868 to 5: 1 in 1883.

This period in fact marked the peak of cattle numbers in the study area and while the sheep figures continued to rise steadily, after 1877 in New South Wales and 1881 in Queensland (Figure 16) the numbers of cattle began to decline. If, with the contemporaries, we see cattle as the pioneer beast on the plains, this marks the end of the pioneering phase of pastoral development in the Warrego. Many stockmen were loath to make the change[53] but for the majority the attractions of improved overland communications by rail, a growing confidence in the ability of the Warrego

to support sheep, and the current attraction of the English wool market, were sufficient encouragement.[54] By 1883, the trend which was to dominate the next period of settlement was already well established.

b) The densities

With the increasing numbers of stock depastured in the Warrego came examination of the potential carrying capacities. A petition in 1879 from the New South Wales tenants had asked for official adoption of the Queensland figures of 100 sheep per square mile, or one sheep to 6.4 acres,[55] but with the increasing experience of a wider area of the Warrego, the country was being classified in more detail.

The New South Wales Inquiry of 1883 distinguished three types of country on the western plains and awarded suitable stock-carrying capacities to each. As noted previously[56] only two types were included in the study area, the first class black soil plains, where three acres would support a sheep and the third class red sandy back-country, where five and a half acres or more were necessary.[57] These were the capacities after the country had been "improved", i.e. after money had been spent on essential watering facilities and possibly fencing, and there was much speculation on the ability of the country to respond to such investment.

The extent to which "improvements" would increase carrying capacities was thought to vary with the country. On the frontages already heavily stocked, the chances of increasing capacities were not good; the best chances lay in the remoter virtually untouched back-blocks. A stockman on the Paroo River hoped to improve previously unwatered back-country in the west of the study area (which had been terra incognita about 1870) to carry a sheep on every 10 to 20 acres.[58] Development of the back country northwest of the Darling was expected to raise the density of stock on Dunlop station to more than a sheep to every five acres.[59] These, however, were the aspirations; what were the facts?

Three sources throw some light on stock densities at this time. The first are the reports in the early 1880s from the agents of the Australian Agricultural Company and evidence from brochures of station sales; the second represents the official view of the carrying capacities as depicted along the 29th Latitude in Figure 12, while the third is an official return of the stock capacities, before and after improvement, on certain of the New South Wales runs.

The evidence from the first source forms Table 6. The contrast in density of stocking between the red sandy

country and the black soil plains is clear; in 1881 the inferior red country was carrying less than half the density of the plains, and the scanty evidence of the potential after further improvements suggests that this ratio would be maintained. The improvement of the black soil country had virtually reached its maximum by 1881, whereas there was still room for considerable improvement of the red country.

The graph of official estimates of carrying capacities 1866 to 1884 (Figure 12) shows that official ideas were changing throughout this period. In general the highest capacities remained centred on the Warrego and Culgoa-Bokhara frontages, but in detail there had been significant changes by 1884. The 1875 estimates were generally lower than figures for the same areas in 1866, while the 1884 figures were generally higher than any before. Apparently the optimism of 1866 had had to be modified by 1875 and capacities along the frontages had been halved in some cases. This "deterioration" was marked along the Barwon and the Birrie-Bokhara frontages, but the Culgoa had improved. By 1884, the trend was towards generally increased capacities with less contrast between different kinds of country. The only country to be much below the general level of stocking capacities was the back-country between the Nebine and the Warrego, and even here the capacity

was thought to be eight acres per sheep. The discovery of artesian water beneath virtually the whole of the study area may have effectively negatived the main factor in earlier assessments, the problem of water supplies, and enabled a more uniform evaluation of the country. If this was so, the differences in capacity at 1884 must represent variations derived from other considerations and we can examine some of the possible factors in our third source, the return of improved and unimproved capacities in 1883.

These capacities were mapped on the base of Beadle's "Vegetation Map of Western New South Wales, 1945" and the results are plotted on Table 7. The natural capacities of all the vegetation associations varied from the frontages to the unwatered back country; for many the back country could carry less than half the stock on the frontages. The poorest capacities were found in the mulga scrub country, but even the unwatered Mitchell grass plains had a naturally low carrying capacity. The best natural capacities, as might be expected, were the black soil frontages and the watered Mitchell grass country in particular.

After the blocks had been improved, mainly we can assume by securing water supplies, the picture had changed. On the black soil country the contrasts between frontages

and back blocks had virtually disappeared, but on the red country the contrast was still significant. Even with adequate water facilities, the back-blocks on the red country could still only carry half the stock of the frontages. Improvements had lessened the general difference in capacity between the black and the red lands and there appeared to be little to distinguish the mulga from the coolabah association in 1883, once the provision of water had been assured. The greatest benefit from improvements was on the back-blocks where capacities were generally doubled; improvements of the frontages only resulted in significant increases in capacity on the inferior red country, and made little impression on the already heavily stocked black soil frontages.

B) Taxing the potentials

a) Principles

After the nominal rents of the initial period of occupation the assessment of rents from 1867 to 1883 was the subject of an interest which grew with the rents themselves. The contemporary principles of rent assessment, examined in Chapter 3, were evident in the assessments in the Warrego. Any attempt to increase rents was met by the argument that the increase would be an unfair taxation

of investments, since it was held that the land itself had no value and its potentials were only realised by investment of capital.[60]

A further problem was the seasonal variation of returns on that investment. The good years had to be set against the bad. As one of the stockmen on the Darling claimed:

> The value of land is enhanced or depressed by the value of the produce from it. Some years land in a district would not fetch a shilling an acre. The low price of wool, the cost of shepherding sheep by labour, and the expense of cartage of supplies and produce, would leave a very small margin for profit. Where the rainfall is regular...where the price of produce is high...special encouragements are offered for the investment of capital in this direction. But these are speculative ideas, and it is not possible to fix anything like a standard value. 61

For the capitalist anxious to protect his investments, or the struggling stockman, the variable nature of the environment was a source of anxiety[62] and it was in both their interests to stress their difficulties and hope that the rents would not be increased.

b) Practice

In fact, however, with the continued and expanding occupation of the Warrego came increased rents. The increases varied over the study area and between the two colonies (Figure 10 and Figure 17). In 1866 the highest rents had generally been found in the New South

portion of the study area, but by 1880 the New South Wales lessees had the advantage over their Queensland neighbours. On the frontages the Queensland rents were generally higher than New South Wales rents for similar country, although the assessments on the back country were lower. The difference results from the "rent-free" allowance in Queensland on land "unavailable" for pastoral purposes. Thus, the rent on the total area of the back-blocks between the Warrego and the Nebine was brought down below the New South Wales figure because of the high percentage of land un-assessed (Figure 10).

A feature of rents in 1880 is the sharp contrast east-west across the study area. On the cross-section (Figure 10) the division lies immediately west of the Culgoa, on the map it might be represented as a running northeast-southwest parallel to, but slightly west of, the Culgoa River. To the east and south is country assessed at about one half-penny per acre, to the west and north is country paying about one-third of that rent. The division is disturbed by the peaks of rents along the Warrego frontages and troughs between the Narran and the Barwon, but apart from these variations the study area is remarkably evenly divided between high and low land values.

In detail, the rents suggest that in 1880 the Warrego frontages in Queensland were assessed higher than the

Balonne country, while in New South Wales the Barwon frontages had declined relative to earlier assessments, as had portions of the Warrego frontages. This might represent the deterioration of stock-carrying capacities, as had been illustrated in section A) above, but there are reservations.[63]

4) PROSPECTS

The condition of the pastoral industry in the Warrego country had improved considerably since 1866. Large properties now covered the country, capital and labour were at work improving the prospects for production, and with the promise of artesian water there were great hopes for the long neglected back-country. If the river navigation had not been the panacea for transport which had initially been hoped for, at least the railways were approaching and, allied with an expanding net of land communications, were encouraging actual settlement of the country and growth of the towns. Drought bestrode the plains once more, but the improved water supplies would reduce its impact, and of more immediate concern were the distant rumblings of a political assault upon this pastoral fortress which had been thrown up upon the plains.

CHAPTER 6

STRUGGLING 1884-1901

The period of uninterrupted pastoral occupation closed in 1883 on an optimistic note which was to continue well into the following decade. The clarification of ideas about the quality of the Warrego environment, allied with the effects, real and imagined, of technical improvements in transportation and the provision of water supplies, promised a sound future for the pastoral industry. But, as we shall see, the period 1884 to 1901 was one of conflict rather than uninterrupted development, a period of strife between men, and between men and their environment. These were years of continued changes not only in the physical environment of the Warrego country, but in the political, economic and social framework of settlement on the plains. These changes, and the efforts of the settlers to adapt themselves to them, are the central theme to this period of pastoral occupation.

1) CLOSER PASTORAL SETTLEMENT

A) Legislation and Successful Settlement

> The foolish man shouteth much, and makes a mighty noise therewith in public places, desiring much to assist in running the Government, and behold they make laws which squelch him from the face of the range; but the wise man holdeth his peace, neither

> tooteth he his buzoo too much, but rather winketh to himself, and worketh out his own salvation--neither soundeth he loud timbrels, nor kicketh up a dust.
> The Australasian Pastoralists' Review 15 September 1891, p.252.

The New South Wales and Queensland Land Acts of 1884 were the initial political changes which were to affect all subsequent pastoral occupation in the Warrego country. The Acts were basically similar measures aimed at the subdivision of the larger pastoral properties in order to promote more intensive occupation and development of the plains. The pastoralists' fortress was to be stormed and their monopoly of the plains broken.

This legislation had been passed in the face of strong opposition from the pastoralists, who claimed that their loss of area would not be compensated by increased security of tenure, and that the proposed increases in rents on both new and original leases were not justified. To add weight to their arguments, they cited the effects of the drought which was at that time enveloping their properties, claiming that smaller properties could not hope to survive such an occurrence when even the larger properties had heavy losses. Opposition was particularly vocal in New South Wales,[1] and even in Queensland the Act was only passed after a long debate.[2] Here, the pastoralists boycotted the Act until its provisions were amended in their

favour in 1886.[3] The legislation, in fact, was generally unpopular with the pastoralists, and little sympathy could be expected from them for its operation or for the new settlers which it introduced to the plains. The odds against its success were, at the outset, high.

To assess the success of the legislation and the closer pastoral settlement which it supported, we must first define "successful settlement". In some cases, success might be judged from the ability to overcome the difficulties and hardships facing settlement, and to maintain production, if at a reduced rate; to survive, in fact, if not to prosper. A contrary view might see "success" as the reduction of losses by removal of the investment through sale of the property or its temporary abandonment in the face of overwhelming difficulties; a discrete withdrawal in fact. For our investigations we shall accept the first judgement as representing the official, and perhaps most logical, view of the question of success in settlement. Thus, if the original owners retain control of their property throughout the time of stress, remain unencumbered by mortgages, and at the same time manage to retain some stock on their property, then we shall claim some success for these properties. If, on the other hand, the original owners were swamped by mortgages, or

abandoned their holdings at some stage in the period, or were forced to remove or had lost all their stock for a year or more, then we shall point the finger of failure. Between the two extremes will be a wide range of individual cases, of partial success or incomplete failure, but for our general view the definitions will have to suffice.

B) Division and conquest? The graziers' story

For the impact of legislation upon the facts of pastoral occupation we must examine the official record of lease ownership in the study area. The facts of this record are shown on Figure 20 and Table 8, and form the basis for our initial discussion.

a) The occupation of the resumed areas

The first point to arise from the map of the intensification of pastoral occupation (Figure 20) is the relatively late start of closer settlement in Queensland, where the areas initially occupied within the six years from 1884 through 1889 were much smaller than in New South Wales. The delayed acceptance of the new legislation by the Queensland lessees is responsible here, for when the resumed areas were opened for closer settlement, there was a rush of applications on both sides of the border.[4]

The rush to occupy the areas opened to closer settlement, however, did not blind the new lessees, or

graziers as we shall call them, to the qualities of the land offered, and Figure 20 shows that the initial rush was only for the properties with frontages to the main watercourses. These were, in any case, the first areas to be opened and both this fact and the rapidity with which they were taken up for closer settlement emphasize the continuing importance of natural water supplies at this time. In contrast, only after the bulk of this land had been re-occupied were the back blocks considered. Here occupation was never complete prior to 1901, and even at that date large areas had not been taken up for closer settlement, although offered for lease for several years.

With the division of the pastoral holdings and the opening of roughly half their area to closer settlement, the optimists in the 1880s would have expected the complete occupation of the new country. Yet the situation in 1901 showed that large areas had never been re-occupied, especially in the western half of the Warrego country. In New South Wales, using Table 8, over one-third of the areas resumed for closer settlement were still vacant in 1901.[5] In Queensland, similarly, at least one-third of the resumed areas were not used for closer settlement in 1901.[6] On both sides of the border the proportion of the total area

in closer settlement by 1901, was about one quarter; in theory, at least, it should have been half.

b) Bona fide occupation?

The legislation of 1884 was a serious attempt in both New South Wales and Queensland to place bona-fide settlers on the land. "Sheep walks...must recede and give way when the land is required for bona-fide occupation", said the New South Wales Minister for Lands, introducing the 1884 Act.[7] In Queensland, the fundamental object of the Government's Bill was "the close and permanent settlement of an industrious population on the public estate."[8] Yet the precautions against illegal ownership were insufficient to prevent unscrupulous settlers obtaining control of more than the one holding to which they were legally entitled. Before the end of this period there was ample evidence in the Warrego country of effective control, through family ownership or partnerships, of areas in excess of the legal size of closer settlement holdings.[9] Thus the tendency was for the numbers of lessees in the study area to cease to increase after the initial subdivision for closer settlement had brought in a group of new owners. This is particularly evident if we take a closer look at the facts.

If we examine the area opened to closer settlement and divide that area by maximum areas allowed for the closer settlement leases, we shall have some idea of the minimum settlers which the land could in theory support. In the New South Wales portion of the Warrego country, 5,430,000 acres were opened, giving approximately 530 Homestead Leases of 10,240 acres each; in Queensland, 3,932,000 acres were opened, giving approximately 196 grazing slections at 20,000 acres each. If all this land had been effectively occupied by 1901, approximately 726 new owners would have been added to the 76 owners already present in 1879. But our sources suggest that there were only 194 owners (excluding 23 companies and banks) in the whole of the study area in 1899, which was before the worst of the drought.[10] Even with only two-thirds of the resumed areas occupied, there should have been approximately 555 owners in the study area. In fact the actual owners present in 1899 were only half the total they should have been if all occupation had been bona-fide. It is true that some of the owners were obscured by the mortgaging agencies, but the numbers involved could not alter the general conclusion that the attempt at closer settlement had, by 1901, been successful in establishing bona-fide occupation on only half of the area actually settled.

Bona fide occupation did not, of course, always imply bona fide use. Details of actual use of land are difficult to uncover, but we shall show later that many of the graziers were content to rent their land to adjacent pastoralists rather than run stock upon it themselves, and there is evidence of considerable speculation in the small holdings during the good seasons.[11]

c) Successful settlement?

The question remains, to what extent had the division for closer settlement been a "conquest", in that successful settlement had been established and maintained? We have noted the more obvious examples of failure, the large areas unoccupied for closer settlement, and the failure to really increase the intensity of occupation. That the Queensland and New South Wales pastoralists could continue to graze their flocks over hundreds of square miles of country originally intended for closer settlement was obviously a sad commentary on the effectiveness of that closer settlement at the turn of the century.[12]

Our measure of success, however, involves more than mere occupation. How far did the flocks of the graziers survive the droughts? There was evidence of losses and forced removal of stock even where the graziers were controlling more than the maximum legal area. A grazier

on the Barwon frontage gave a grim story to the New South Wales Royal Commissioners in 1901:

> Can you tell me what number of sheep you carried on 40,000 acres?
> About 7,000 sheep.
> What did you do with them?
> Sold them out, all but a few.
> Why did you sell them?
> They were dying.
> What did you get for them?
> 3s 6d.
> How many sheep did you have on the lease in 1897?
> About seventy-five.
> Where did you go to in 1898?
> I had to shift to Queensland. I abandoned the place, and went to Queensland with my horses.
> And you let your country?
> Yes.
> What did you get for it?
> £20 a month for the two leases.
> For how long?
> For four months I think.
> Do you know how many sheep were on it?
> Yes; they put 10,000 sheep on it. At the end of four months they took off 2,400. They thought they would keep them alive with the scrub; but it killed them. 13

Such a story may have been quite common in the Warrego country at this time.[14]

The main problem facing the grazier in the drought was not simply that he lost his stock, but that he usually had insufficient capital to make up the losses when the drought broke. The Queensland Royal Commissioners in 1897 found "instances of hardship" on the plains "which demand the active sympathy of the Government." The reasons for hardship

were listed as the "inferiority of the soil", "the limited capital at the command of the settlers when they entered upon their enterprise", "the smallness of area", and "the selection of country in areas beyond the means of the selector, and the subsequent application to monetary institutions for relief".[15] The full extent of the indebtness of the graziers of the Warrego country at this time is extremely difficult to uncover, but all the available evidence suggests that a significant proportion (possibly between one half and two-thirds) of the owners were indebted to some extent at some time during the period under discussion.

We cannot say, however, that failure among the graziers was universal, and the exceptions are interesting. While the Queensland Commissioners had found evidence of hardship in 1897, they also recorded "evident signs of success" on the plains "notwithstanding that the country was seen at a time when drought prevailed."[16] Even in 1901, not all the evidence to the New South Wales Commissioners was of distress and failure; there were men who had stayed on their properties and continued to carry stock through the drought.[17] Some, however, had stayed on because they were unable to find alternative employment. As one complained:

> a number of years in the west unfit us for any other occupation. I cannot turn round now and become a professional man, or do anything else. I have to stick to the station, whether I like it or not. 18

Others had stayed on for the want of a buyer for their property. A grazier on the Culgoa frontage refused to put any more money into his property on improvements to combat the drought, unless offered an extension of his tenure:

> And without that, what is your outlook? To try to take advantage of the first time I find a fool, and sell to him. 19

Unfortunately for such an attitude, in 1901, fools of the kind he wanted were hard to find and many graziers were saddled with unsaleable property.[20]

Yet, there is no doubt that despite considerable losses, closer settlement did achieve some increase in the numbers of lessees in the study area (Figure 14). Over the decade 1889 to 1899, the numbers doubled, despite the loss of virtually four-fifths of the lessees who had been present in 1889 (Table 20). The fact that the total number could increase in the face of so large a loss, emphasizes the great speculation in ownership of the small holdings which must have taken place. Ironically, closer settlement had increased the total number of owners, but more important as

a commentary on the efficacy of the official policy were the large numbers of owners who "got away", in the sense that they took up land as bona-fide settlers but then sold out, or were forced out by circumstances beyond their control, and so were lost to the settlement of the Warrego country.

2) A HOUSE DIVIDED. THE LESSEES' STORY

While the small graziers were attempting to establish their new homes under the benevolent gaze of the central Governments, the pastoral lessees continued their operations under the limiting conditions of the new legislation. The story of their struggle to maintain and if possible expand their operations in the face of official efforts to curtail or at least control their activities needs to be examined in two stages; firstly, their attempts to preserve sufficient of their original area to enable them to maintain the scale of their original operations; and secondly, the detailed appreciation of their activities and the attendant success or failure.

A) A sufficient area?

The effect of the 1884 legislation in New South Wales was to remove, almost immediately, half the area of the pastoral holdings from the legal control of the lessees. Within weeks of the passage of the Act, the surveyors were

at work subdividing the most attractive properties in order to meet the first rush of applications for the Homestead Leases, and as a result, particularly on those properties close to the towns and where the resumed areas included attractive frontages, the lessees were soon dispossessed.

In contrast, the Queensland lessees, by refusing to take advantage of the 1884 Act gained two years' grace and effectively delayed the occupation of the resumed areas. Not only was the occupation delayed, but judging from the conditions in 1901, closer settlement had been relatively less successful in Queensland, for large portions of the resumed areas were still in the hands of the pastoralists. To some extent this was also true in New South Wales where the pastoralists had retained control of some of their resumed areas through Improvement and Artesian Well Leases, and were effectively working even more country under rent from the graziers on the Homestead Leases.[21] Area alone was no criterion, however, what of the quality of the land?

In giving up half their holdings the lessees had parted officially with country at least equal to that remaining in their hands, but there seems to be evidence that astute division of their properties usually left them

with the superior portion. A return of stock-carrying capacities in 1888 showed that of the 36 holdings in the New South Wales portion of the study area which were subdivided, in 22 cases the capacity on the leasehold area was higher than on the resumed area; in 11 cases capacities were equal and in only 3 cases did the resumed area offer facilities for denser stocking.[22] Watering facilities varied also. A map of the northeast portion of the Western Division in 1885[23] showed that for the 36 holdings, in 18 cases the leasehold area had more tanks and dams than the resumed area, in 8 cases facilities were equal and in 10 cases the resumed area had the advantage. This crude but interesting check reinforces the conclusion that for New South Wales, at least, the new settlers on the resumed areas had inferior country and facilities upon which to establish themselves. For Queensland no similar evidence is readily available, but a report in 1900 suggested for the Warrego District, on a pastoral holding of average size, the "unavailable" (i.e. scrub) land was only 15 per cent of the leasehold, but 25 per cent of the resumed portion.[24] Conditions in Queensland did not seem to vary greatly from New South Wales.

The lessees thus appear to have made the best of their predicament as regards the size and quality of the land

remaining to them; it remains now to examine their success upon this by no means insubstantial remnant of their original properties.

B) Continued ownership?

> Baa, baa, black sheep,
> Have you any wool?
> Yes, sir, oh yes, sir! three bales full.
> One for the master, who grows so lean and lank;
> None for the mistress,
> But two for the Bank!
>
> G.H. Gibson: Ironbark Splinters from the Australian Bush, London, 1912.

In the light of our definition of success, how did the lessees survive the stresses of the two decades? What, for example, happened to the area controlled by the original owners, did it increase or decrease; did the loan companies and banks, those messengers of doom, extend their influence through the period, or were they held in check? A partial answer to some of these questions is found in Table 9. From 1884, when prior to subdivision of their holdings the individual pastoralists held 42 per cent of the area under pastoral lease, their position deteriorated until in 1900 they held only 20 per cent of the area. The decrease and implied failure, however, was most evident in Queensland where the pastoralists controlled only 9 per cent of the area in leaseholds in 1900, compared with their southern

neighbours who, as in 1884, retained virtually a third of the area. The increasing area under the control of loan companies and banks bears out this suggestion of extensive "failures", for by 1900 companies and banks controlled almost three-quarters of the area in leaseholds. Again the Queensland leaseholds were worst hit, with 84 per cent under their control, compared with 59 per cent in New South Wales.

In the light of so much failure, as with the graziers, the few "successes" need all the more careful analysis, and here the factor of size of operation appears to have had significance. If we examine the changes in ownership of the leaseholds for the decade 1890-1900, during which time the pastoral industry reached its peak of development (judged by the number of stock carried) successful occupation appears to have varied according to the sizes of the holdings. The figures provided by Table 10 show that while individuals in 1890 held some of the largest as well as the smallest properties, they tended, especially in New South Wales, to predominate on the smaller properties of less than 50,000 acres. It is from among these small properties by 1890 that the greatest evidence of failure comes, for in that year - again particularly in New South Wales - the banks held 11 of the total of 27, with 5 more

in the hands of the companies. By 1900 further "failures" of these small properties brought the combined company and bank total up to 19 out of the 27. Significant failures also occurred in holdings of 50,000 to 200,000 acres in Queensland. By 1890, 9 of the company holdings fell into this group, with 5 actually between 50,000 and 100,000 acres and by 1900 the numbers were unchanged; in New South Wales, similarly, 9 company holdings ranged from 50,000 to 200,000 acres in 1890 but the number had risen through failures in partnership and individual holdings to 16 by 1900.

To summarise, the question of survival seems to have been in part at least, a function of the size of holdings. The most vulnerable holdings were the smallest, those below 50,000 acres, where by 1890 the loan companies and banks had already claimed a significant proportion and were to increase their control by 1900. In Queensland holdings of 50,000 to 100,000 acres had fallen into the hands of loan companies and in both Queensland and New South Wales the bulk (75 per cent) of the holdings of less than 200,000 acres were held by companies or banks. Above 200,000 acres, fewer holdings failed in New South Wales than in Queensland, 42 per cent as against 85 per cent; yet "failure" in the sense of reversion of ownership to a company or bank could affect the whole range of

holdings. Size was obviously of some importance but the surprising feature of this analysis is the tenacity with which individuals and partnerships, particularly in New South Wales, held on to their small properties throughout the stresses of the decade, despite the fact that in terms of area, at least, they were little better off than the graziers.

C) Sufficient stock?

Ownership, however, is only one of our criteria; the continuity and density of stock carried is a further relevant consideration. To what extent did the pastoralists' flocks survive the droughts, and how did their use of the land compare with the graziers' activities?

With the reduction of their working area in 1884-1886, their immediate reaction was to retain the original flocks, in the hope that the country would carry the strain of the increased density of stock. The pastoralists must have been partly encouraged in this policy by the optimistic view of the pastoral potential, mentioned earlier, but there is little doubt that the main factor was the desire to maintain profits at the original level through operations undiminished in size. Whatever the motivation, the policy was a calculated risk which most of the pastoralists appeared willing, or (as they maintained later) were forced, to

take to maintain their position on the plains. It says much for the quality of the country and the seasons that they were able to double their stocking rates for virtually a decade before the deterioration of the natural feed began to be felt.[25] Deterioration, however, was inevitable, and while we shall reserve the full examination of this phenomenon until later, the impact on stock densities needs to be considered here as evidence of possible "failure" of settlement.

Any attempt to analyse stock densities on either the pastoral or grazing holdings during this period faces difficulties. The data of stock carried are sparse; we can rely only on the figures provided in the appendices to the New South Wales Royal Commission of 1901. A greater problem is the identification of the area upon which those stock were depastured. The area controlled by lessees appears to have varied from year to year as the seasons or local conditions dictated. In good years the holding might carry all the stock held by the lessee; in poor seasons they were likely to be spread over several localities temporarily leased and comprising a much larger working area than the leasehold alone. The figures available, therefore, are suspect, but the limits of error are roughly known[26] and, since better data are lacking, they must suffice.

Using the data on Table 11, the comparison of stock densities shows that, on the average, the pastoralists were carrying more stock than the Homestead Lessees. The exception was on the Mitchell grass country where they were more cautious in their stocking, having a maximum density less than that on the grazing holdings and as a result less catastrophic losses when densities had to be reduced.

Yet on the question of "failure", that is the complete loss of stock for one or more years, the Homestead Lessees were generally worse off than their pastoral neighbours, even those with roughly the same area and generally less intensive use. On the red country their stock densities dropped to one sheep per 28 acres compared with the pastoralists' one to every 5 acres. Here, the small pastoralists survived fairly well (only two out of the six holdings being bare of stock at any stage) and the larger pastoral holdings even better (only one of twelve being bare of stock at any stage), but 11 of the 14 Homestead Lessees had to remove all their stock at some stage in the droughts. On the black soil Mitchell grass country all the Homestead Lessees "failed", while only one of the small pastoralists and none of the larger pastoral holdings were affected. The situation was virtually repeated on the Coolabah country.

Apparently the small numbers of stock held by the graziers were insufficient to survive the stresses and to recover afterwards. In this, they were at a disadvantage when compared with the pastoralists. The question remains whether this was a result of the limited scope of the graziers' activities, the inferior nature of their land, or their own bad management.

Despite their apparent advantages, by 1901 several portions of country held by the pastoralists had been abandoned,[27] and their situation as well as that of the graziers was critical. To explain the position and the problems facing both protagonists on the plains, we need to examine the difficulties which brought about the reappraisal of the Warrego country by 1901.

3) COMMON PROBLEMS--A CHANGING ENVIRONMENT

Changes in the character of pastoral occupation at this time were set against the background of a changing environment. Not only were the physical conditions in the Warrego country in transition, but the economic and social environments of the pastoral industry were undergoing significant changes. The walls of the pastoral fortress, already breached by the political assaults of 1884-1886, were beginning to crumble of their own accord, as the foundations on which they were built - the physical

environment - altered under the stresses, and the bricks and mortar - the economic and social ties - fell away.

A) The changing character of the Warrego country

Coinciding with the optimistic view of future pastoral development in the Warrego country, came a timely addition to official knowledge of the environment, after 1884 in the reports of the subdividing surveyors. The picture presented by the reports is mapped as Figure 18. By comparison with the knowledge of 1866, great advances had been made. A much better idea of the vegetation away from the river frontages is supplemented by further details of natural water supplies on this back country. The map illustrates the fact that the Barwon frontages were relatively inferior in extent to those along the Balonne and Warrego distributaries and the lower Darling, and that between the watercourses, the scrub country could contain pockets of good grazing land which lacked only water for their development. This was the vision of the facts about 1885, but the facts themselves were to change in the following decades.

The outstanding trend from 1884 to 1901 was towards a reduction of the capacity of the Warrego country to graze stock. This was the period of maximum stock densities but it was also the period of the most serious stock losses.

Shortages of water and feed became critical during, and particularly towards the end, of the period; to illustrate and explain the reasons for these conditions we must examine the old problems of drought and some new problems peculiar to this period, namely flood losses and the spread of noxious plants and animal pests.

a) Factors in the reduction of stock-carrying capacities

i) Drought

The most serious cause for alarm during the period was the re-occurrence of drought, bringing shortages both of water and feed. The period opened in the midst of drought conditions[28] and stock holders in the study area petitioned for relief in 1884 and 1886.[29] The final Report of the New South Wales "Royal Commission on Conservation of Water" noted the heavy losses of stock from drought along the Darling in 1884-1887 and suggested that the limit of pastoral expansion may have been reached. "Unless the benefits of irrigation can be placed within the reach of the pastoralist", the Commissioners considered, "his enterprise must remain restricted, and he must continue to see his flocks perish in the frequently recurring times of drought." [30]

After improvement in the 1890s, conditions had reverted to drought by 1901, and were claimed to be worse

than any yet known. The 1901 New South Wales Royal Commission, as we have seen, painted a harrowing picture of stock losses and pastoral failures.

ii) Flood

There's a whisper away on the Queensland side
Of the Barwon a banker, the Warrego wide
Spread from range to red range; of the seige of a town.
Of farms that are wasted and cattle that drown,
Of a trackless road and a bridgeless sea,
And grey miles measured from tree to tree-
And the people gather at gate and rail
For the latest news by the Darling mail.

W. Ogilvie: "The March of the Food".

Stock losses continued to result from superabundant water supplies just as much as shortages. The most severe flooding ever experienced in the area occurred in 1890 with a great loss of stock on the black soil alluvial plains along the Barwon, Culgoa, and Narran rivers.[31] The approach of floodwaters on the black soil plains could be a serious problem unless there was higher red country conveniently placed as "get-aways" for the stock. In the evidence before the 1901 Royal Commissioners, the presence of such "get-aways" on the stations in the Culgoa-Narran country was for the first time considered an advantage by the graziers.[32]

iii) Scrubs and rabbits

The vegetation of the Warrego country was recognised to be changing significantly and for the worse during this period. Loss of edible plants by the grazing of rabbits and their replacement by scrubs were the two main causes for alarm. By 1891 the rabbit advance from the south-west had reached Bourke[33] and by 1893, the Warrego river above the study area in Queensland.[34] The effect of their grazing upon the vegetation varied considerably since there is abundant evidence that they preferred the red, sandy, country and only occupied the black soil plains when the sandy country had been eaten out. Yet their impact on the grazing industry was considerable, for besides competing for forage, the initial limitation of their activities to the red country often meant that the drought standby-feed, normally available to the graziers on this country, was grazed out before any droughts occurred. Not only were the grasses in this country grazed out, but the edible scrub (principally mulga) was ring-barked and killed off. In 1897, the Queensland Royal Commissioner had found that the rabbits had made an appreciable impact on the vegetation and stock carrying capacities of the south-west of the state, although the Warrego valley had not been as adversely affected as areas further west. The conditions were apparently worse in New South Wales,

where in 1901 rabbits were cited as the second major cause of the deterioration of the Western Division.

The spread of inedible scrubs and plants was associated by some of the stockmen with flooding and by others with the effects of overgrazing and a lack of bush fires to control the seedlings; the importance of the spread, however, was not disputed although the problem in the Warrego country was not as acute as elsewhere.[35]

In the northeast of the study area a further threat was developing in the form of the infestation of country by prickly pear (Opuntia spp.). The first reports of infestation came in 1900 from the St. George area and noted that the area affected was "increasing with alarming rapidity."[36] This, however, was a problem for the future.

b) Attempts to maintain and expand the capacities

In the face of these forces tending to reduce the carrying-capacities of the Warrego, the stockmen were already at work expanding those capacities. The development of the back-country, made possible by the discovery of the artesian basin and the availability of external capital to develop it, was in terms of new techniques of more extensive pastoral land use. Prior to the opening-up of the back-country for permanent use, there was no incentive to invest capital in fencing the "range" since the practical

limits of grazing around the waterholes formed virtually "natural paddocks" for stock. Once cattle had been herded or "tailed" on the same country for a few weeks, they could be left to fend for themselves on country within daily walking distance from water; with sheep it was more difficult and they needed constant shepherding to keep them within the "available" country.[37] Once the back-country had been made available for continuous pastoral use, however, some artificial restrictions on stock movement became necessary and fencing of the country into paddocks was the logical contemporary answer. As a result, between 1880 and 1885, many properties in the Warrego country were subdivided into paddocks for the first time and the controlled pastoral use of a much larger proportion of the total study area was begun.

To meet the specific threat to capacities from rabbits, large sums were spent, particularly by the pastoralists, on measures of control. Official Government action in New South Wales had begun in 1880 with the "Act to protect the pastures and live stock of the Colony from the depredation of certain noxious animals" and was followed up in 1883 by the "Rabbit Nuisance Act". In Queensland the M.L.A. for Warrego had introduced a bill to prevent the introduction of rabbits in 1880, without success; but although by 1887

a rabbit-proof fence had been authorised and built along the New South Wales boundary west from the Warrego River,[38] the rabbits were already in Queensland. Meanwhile the lessees were at work with gun and shovel, poison cart and wire netting. In 1892, after the 1889 Interstate Royal Commission on the rabbit question had found no satisfactory solution except the temporary check afforded by fencing,[39] the Queensland lessees were given an extension of tenure if they fenced their properties against the rabbits. Most of the properties took advantage of the Government's offer of wire and by 1898 the study area was a network of rabbit-proof fences.[40] Not all the lessees had put up fencing by 1901, however, because even with Government wire the expense was considered too great.[41]

Despite the fact that the evidence of deteriorating natural feed was abundant, there were few attempts to provide artificial supplementary feed for stock prior to 1901. The lack of effort was not the result of ignorance for the whole question of supplementary feed was under discussion during the droughts. "Bush hay", that is the natural grasses cut for hay, was considered along with irrigated wheaten hay or oats, but the general opinion was that such feed was too expensive to be a justifiable investment. Such feed as was raised was of no real importance to the study area as a whole, although for

individual stations it might play a significant role.[42]

While supplementary feed was generally ignored, considerable effort went into the development of water supplies and scrub clearing. The full development of the artesian supplies belongs to this period; years when government and private drilling rigs dotted the landscape. In Table 12 is shown the extent of development from 1895 (by which date the successes were assured) to 1901, when restricted financies brought a temporary halt to further exploratory drilling. The government bores, more common in New South Wales than Queensland, mainly served the travelling stock routes and represented an attempt to enable stock to be moved on the plains during times of drought,[43] but the private bores, which by 1901 were much more evident in Queensland, were specifically to enable stocking to be maintained and expanded on the leaseholds.[44] As to the effects of the artesian supplies we can do no better than quote the New South Wales Superintendent of Public Watering Places and Artesian Boring:

> a well located bore, with channels carrying the flow for miles through paddocks, materially alters the position, and affords a double frontage as it were, to a running stream, superior in many respects to a river; it admits smaller paddocks, which will carry far more stock in proportion to a large paddock served with only one watering place. The enormous traffic to and from the water is avoided, and the dust and waste of food is consequently reduced to a minimum. [45]

The optimistic haze which surrounded the success of the artesian drilling operations tended to obscure the spectre of "feed-drought" which was the logical sequel to the increase of water supplies without regard to the available fodder. In 1901, the bare plains dotted with bloated carcasses showed how far was the gap between the two bases of the pastoral industry.

Attempts were made to improve natural feed by ring-barking useless scrubs, but the main work did not begin until the droughts had begun and the results, in terms of extra grass, were therefore minimal. In 1893, when the first figures were available for the New South Wales portion of the Warrego country, only 16,000 acres had been ring-barked; by 1895, this had increased to half-a-million acres and by the turn of the century to about 1,250,000 acres.[46] The response of such country in these drought years cannot have been great, however.

c) Evidence of deterioration

Despite all efforts, the evidence of deterioration accumulated. Figures of stock densities for the seven counties in the New South Wales portion of the Warrego country (Table 13) show that from the peak in 1893, densities fell away to a trough in 1901. No equivalently detailed figures are available for Queensland, but the

general trend in stock figures (Figure 16) suggests that there was a parallel decline in stock densities north of the border.

Some detailed figures have survived for properties in the New South Wales portion of the study area, which enable the estimated stock carrying capacities at various dates to be studied. On Toorale holding, one of the most highly improved properties northwest of the Darling River below Bourke, the estimated grazing capacity after improvement of grazing facilities fell from one sheep to every 3 acres in 1891, to one to every 5½ acres in 1896. In 1887, as explanation, one of the owners claimed that "the edible scrubs on the back country are decreasing very fast and those remaining are out of the reach of sheep."[47] On Angledool, a property on the Narran River, the estimated capacity after the property had been fully developed fluctuated from one sheep for every 2¾ acres in 1886, through one to 3½ acres in 1891 and one to 3 in 1896. The actual capacity, however, declined from one sheep to 3½ acres, to one to 4¾ acres through the same period.[48] Obviously, conditions did not deteriorate uniformly over the whole area, there were variations as was suggested in the consideration of the success of settlement.

The question might be asked, as it was in 1901, "which country had stood up best to the effects of droughts, rabbits

and overstocking?" Using the stock densities by counties we might attempt an answer in Table 13. The ability to maintain stock densities in the face of the trends towards deterioration was most evident on the Coolabah plains of Finch County, where the drought had been less severe. The presence of edible scrubs may have helped maintain densities here, along with the improvements which were here the costliest of any of the counties. As a whole, the black soil plains carried most of the stock most of the time, but a distinction was evident between the Coolabah and the Mitchell grass country. The Mitchell grass carried only half the density of stock found on the Coolabah country and although both could be stocked to almost the same maximum density, in the drought the Mitchell grass country was open to heavy losses.[49]

On the red country the scrubs carried less average densities - usually one one-third or one-quarter the best densities of the plains, but an interesting exception is Mulga country in Landsborough County which was second only to the Coolabah plains. A fair amount had been spent on improving this county, with apparently good results, but we must bear in mind that the bulk of the county formed part of two stations under the same management and possibly reflects that management factor. In contrast the Mulga of

Barrona County, with improvements, was the least able to stand any kind of stocking, not to mention stocking in droughts.

B) The changing economic and social environment of the Warrego Country.

a) Increasing costs

Changes in the physical environment were matched by changes in the economic environment within which the pastoralists and graziers were at work. The main problem to be faced was that of increasing costs, a problem which has faced the pioneers through to the modern graziers without a final and successful answer. At the same time that the operations of the pastoralists had been virtually halved and the graziers were struggling to establish themselves, the sheepmen as we have seen were faced with the need to provide costly additional water supplies, measures to protect their land from the rabbits, and to provide additional feed for their stock.[50] Alongside their commitments here, they were faced with the upsurge of Australian unionism, appearing as the Shearer Strikes of 1891-92 and 1894, when the operation of several holdings in the study area was disrupted.[51] Agitation for improved working conditions for rural labour was symptomatic of a growing realisation that bush life did not have the

attraction it once had. Some of the romantic aura around the new settlements had begun to be dissipated before the cold penetrating wind of growing social needs.[52]

b) Remedies

> Without borrowed money the country would come to a standstill; and I do not suppose that we would have capitalists enough to work a fraction of the country.
>
> New South Wales Royal Commission, 1901, "Minutes of Evidence", Q-4449.

To meet these problems the pastoralist and grazier alike needed money. Failing their own capital and straightened by the drought at the beginning of the period, they turned to the loan companies and banks, but only to find that their security, through the subdividing of their properties, had been halved. As a result, for a brief period immediately after the 1884 Act in N.S.W., very little was done to improve or continue the development of the pastoral holdings, and the unemployed workers petitioned the Government for relief.[53] When, after many months delay, work did begin again, the whole pastoral industry was paralyzed by the financial crash of 1893 and several of the banks which had invested in pastoral properties had to foreclose on their clients.[54]

Not all the efforts came to nothing. Capital continued to be invested, if at a reduced rate, attempts were made to

reduce costs and fight the changing economic conditions. The railway to Bourke was opened in 1885 and the Queensland railway to Cunnamulla completed in 1899. Both railways allowed more mobility in pastoral operations and were extensively used to transport stock to agistment and to bring in regular stores and supplies.

Some pastoralists were able to adapt themselves to the changes. Loans were raised; wells were drilled and tanks dug; Chinese labour cut scrub at less than union rates, mechanical shearing was tried out and smaller paddocks offered greater control of stock and the feed supplies. For many, however, their efforts were in vain.

4) THE REAPPRAISAL OF THE POTENTIALS

A) The reassessment of the environment

From the rosy optimism of 1883, opinion on the Warrego environment had moved rapidly into the gloom which marked the turn of the century. Far from establishing man's superiority over the elements through his investment of labour and capital, contemporaries saw all about them the triumph of the elements and the ruin of man's works.

a) The question of drought and effective rainfall

At the turn of the century, drought once more enveloped the plains and on this occasion its inevitability was at last recognised. In the words of the New South Wales

Royal Commission of 1901, "the meteorological history of our Western Division shows it to be essentially a country of almost invariably low rainfall and inevitably recurring drought." [55]

Drought could moreover, no longer be defined merely in terms of total annual rainfalls; records had to be reinterpreted in the light of new experience. The importance of the local variation of rainfall was at last officially recognised. The fact that adjacent holdings might have widely different rainfall totals in any one season[56] and that even if a holding received most of the rain falling in the district, the effectiveness of the fall in terms of vegetation response would vary both with the nature of the fall and the type of country benefiting from it, were at last acknowledged. Rainfall had to be concentrated to be effective,[57] and, in the case of the "black soil" country, heavy if it was to be useful.[58]

b) <u>The question of stock feed</u>

> No, the profitableness of the pastoral industry rests on the twin facts that the feed of the sheep is distributed as well as supplied by nature, and that the sheep collect it themselves.
>
> <u>The Morning Bulletin</u>, Rockhampton, Qld, 1900.

Alongside the recognition of the problem posed by drought, came a frightening reappraisal of its effect, in combination with continued heavy stocking, upon the natural vegetation. The old concept, that the vegetation was able to recover rapidly after the losses brought by droughts, had at last to be modified. As time went on and the pressure of stock upon the feed was maintained even in time of drought by artificial water supplies, the ability of the vegetation to respond to reviving rains decreased. This loss of the natural feed threatened a catastrophe for an industry where the return on investment was not thought sufficient to justify further investment in artificial feed for stock.

Alongside this threat was the increasing problem of soil erosion as a result of the reduction of the natural vegetative cover. Erosion in 1900, even if it had been only as effective as in 1850, would have been a greater problem anyhow, since the greater investment in stock-yards, fences and watering facilities rendered the effects of erosion a more impressive cause for alarm.[59] With greater investments in the country the pastoralists were now more vulnerable to the effects of erosion.

B) Reappraisal of the stock-carrying capacities

The reversal of local opinions on the stock-carrying capacities of the Warrego in the late 1890s was stressed

by the New South Wales Royal Commission of 1901. All the evidence suggested that the past estimates had been over-optimistic and that despite the improvement from artificial facilities, the natural potential of the country was more limited than had been thought in the 1880s.

While there may have been a conscious effort by the New South Wales pastoralists to play up their difficulties at the turn of the century in the hope of Government concessions on rents and tenures, the evidence given to the Commission does suggest that the revision of opinion was the result of a genuine mental adjustment to experience of overstocking, rabbit depredations and droughts. A pastoral inspector for Dalgety's who had seen the west Darling country in 1878, when he maintained it was still in its aboriginal state, suggested that:

> there was hardly a limit, except as regards water, in the opinion of settlers then to what the country could carry, and in many cases it was stocked accordingly, but they forget in doing this that they were eating the haystack, and there was soon no crop growing to build another. Then the rabbits came along. 60

Local opinions were general, "that in the early days of settlement in the Western Division much too favourable a view was taken of the carrying capacity of the country."[61] On the alluvial plains in particular the problem of deteriorating capacities was acute:

> The country will not stand this excessive stocking, and when the salt bush, which is the only thing we have to fall back on when the grass is gone, is obliterated, we are done. We have no scrub, and nothing but reasonable stocking and small paddocks to treat the country kindly will cope with the future. 62

The loss of the saltbushes was emphasised as a major problem. A pastoralist on the Culgoa River commented that on his holding:

> about a third of the country is edible scrub country, on which saltbush used to grow, but there has been none practically for the last seven or eight years, except in the horsepaddocks that are reserved. 63

The qualities of the country were such, that while in the past and even in 1901 it was practically impossible in many areas to overstock in the good seasons, in the droughts to quote the Cunnamulla Land Commissioner in 1897, "you could not, to use an Australian phrase, 'feed a bandicoot'."[64]

C) Reappraisals for taxation - the rent question

The assessment of land value as rents was generally complementary to the assessment of stock carrying capacities. This had been true in earlier years and the ties were made even stronger in the last quarter of the nineteenth century. At the same time however, the concept of rent was effectively widened to include factors both of a more general economic nature and legal considerations of the type

of ownership. The general economic factors gave the rent assessments added value for our purposes since they became not merely the shadow of appraisals of stock carrying capacities but wider appraisals of the general economic pastoral potential of the country surveyed. In this way the rents form the nearest approach to a statistical description of the general evaluation of the land which we can hope for at this particular time. The inclusion of legal considerations was a complication which tended to detract from the uniform value of the rents, but before we illustrate this we must examine the criteria involved in rent assessments at this time.

a) Criteria adopted

Continuing the trend of previous years, the basic consideration was still the physical qualities of the country and their reflection in carrying capacities. Now, however, those qualities were considered in the light of the requirements specifically of wool growing not of any form of pastoral use. Popular opinion still saw rents as a reflection only of carrying capacities,[65] but there is evidence of a widening scope of official considerations. Thus the naturally watered frontages still had the advantage over the back country where investments in water improvements were necessary. Given adequate watering facilities, however,

the next important factor was what the contemporaries termed "dlass of country". Essentially this was an assessment of the potential of the vegetation as year-round feed, its capacity to withstand grazing, and any deleterious effects it might have on the wool. One member of the Land Board at Bourke in 1891 noted that their basis for assessment was "class of country whether seedy or sandy or whether clean country and the shape of the block [affecting excessive deterioration of the feed by trampling] - and whether [it] contained any bad bur [sic]." [66] In 1897 the factors used by the Board were summarised to the visiting Queensland Commissioners:

> The highest rents are on the river frontage. They come up to 2d or 2¼d [per acre]. We take, say, five miles from the river, which I consider the distance sheep are able to travel....We also fix the rent on the basis of 8d per sheep....It is 8d per sheep on the river frontages, while on the Paroo [River] it is only 4d a sheep. Between the two it is 7d on good black-soil country, if it is good clean carrying country back from the frontages. If some of it is seedy and some not very seedy, we take it at 6d; and at the back of the run, where it is seedy, we take it as 5d. We take the number of acres of back country, and the number of acres of frontage country, and the number of acres between, and strike an average rental. 67

Yet to give the full picture of pastoral potentials more than the physical condition of the country had to be

examined. The potential of the country for pastoral production in economic, i.e. profitable terms had to be appraised. In effect, we might expect to find the natural potentials receiving less consideration anyhow, not because of any absolute decline in their importance but possibly a relative decline, the result of a tendency to bring the potentials up towards a more uniform level because of the discovery of the extent of the artesian basin (which would virtually remove differences based upon irregularities in water provision) and the presence of capital for improvements of feed by ringbarking and clearing of useless vegetation. To some extent this appeared to be the case in New South Wales from 1880 to 1885 when, as shown in Figure 10 the difference between the lowest and highest rents changed from a ratio of 1:9 to 1:4 (1880-1885). In Queensland however the difference increased from 1:24 to 1:35 over the same period, although by 1900 the ratio had dropped slightly to 1:22, while in New South Wales it had risen from 1:4 to 1:11. Opinion in Queensland was only slowly accepting the lessening of contrast in the pastoral potential of the different types of country, whereas in New South Wales after an initial recognition of lessening contrasts, by the turn of the century the contrasts appear to have increased. The explanations must be left for further evidence.

The main evidence of the increasing weight placed upon economic factors lies in statements by the assessors and interested pastoralists. In 1883 the New South Wales "Report of Inquiry" had suggested the three factors to be considered in rent assessment, the first being accessibility. It was very clear, according to the Report, "that the value of a run must be decreased by 1) the difficulty and expense of obtaining supplies, and 2) by the difficulty and expense of bringing the stock to market." [68] The availability of water or improvements to provide watering points came second, and the quality of the pasture, principally the carrying capacity, was third on the list. A Bourke grazier, E.J. Bloxham, in a letter to the Sydney Morning Herald (24 August 1885) proposed a modified system of appraisals which similarly stressed the importance of distance from the railway and navigable waterways together with the availability of natural water. In the Bourke District the official appraisal of rent (through assessment per head of sheep) was based on transport factor, - "the distance from market and railway stations", "the highest rate per head being fixed on country having frontage to permanent water and navigable rivers and gradually decreasing until the lowest rate is reached on the Queensland border where

the carriage is very high." [69] High carrying capacities were of little value if the country was too remote from markets.

Had the rents in the late nineteenth century represented only these two groups of criteria, their value as a description of the contemporary evaluations would have been immense, but there was a third and complicating group of factors which detract from their value as a source on local opinions. Differences in rental assessments varied not only with natural capacities and economic considerations, but also with the type of lease under which land was held. With the creation of the small grazing holdings after 1884-1886 both the New South Wales and Queensland Governments began to charge different rents according to whether the land was held under the new closer settlement leases or old and renewed pastoral leases. The differentiation had a significant impact on the picture of rents as Figure 10 shows. In most cases, on either side of the border, the smaller grazing holdings were given higher rents than the larger pastoral holdings, while the areas resumed from the older holdings but not yet occupied in grazing holdings had the least rents of all. Hence the differences in rents in 1900 are no longer reflections merely of natural and economic potentials, but of the type of lease-ownership and (indirectly) age of holding. Obviously such a picture is of limited value to us.

b) The evidence from rent assessments

Using the general data available in the published rent lists of New South Wales and Queensland we find a general trend, despite the droughts, claims and evidence of deteriorating conditions, towards increased rents. In New South Wales of 57 pastoral holdings in the study area in 1884, only three had retained the same rent by 1900; 14 had had their rents reduced and the majority (40), had had their rents increased. In Queensland, of the 30 holdings in the area in 1884, all but one had had their rents increased by 1901. The explanation of the overall increase must rest upon the influx of capital investment over the period, and the efforts to improve carrying capacities. An incidental factor also was the timing of the reappraisals, which seem to have generally coincided with the good seasons:

> As it happened, every appraisement has always been on the very top of the season. I have never known one yet that was not so. And you could not blame the appraisers or the administrators of the law at the time the rents were put on. 70

In detail the increase of rents appeared to be less general in New South Wales than Queensland and the contrast here leads to further interesting differences which throw light on the problem, raised earlier, of the varying appreciations of the contrasts between types of country.

Comparing merely the rents at the beginning and the end of the period overlooks fluctuations between the two dates, fluctuations of some significance. In New South Wales the highest rents paid during the period were awarded for the second period of assessment from 1891 to 1896 or 1897, and by 1901 the bulk of the rents had been reduced from this peak to somewhere between the first and second assessments. Queensland, in contrast, did not show this fluctuation. If the rents are any guide, New South Wales was suffering the effects of the drought before the Queensland country was affected. If this were true, we might expect that in the revaluation of the New South Wales holdings some alteration of the ratio between the best and poorest country might have become evident by 1901. This, in fact, had occurred and we have mentioned this anomally in section a) above, when the ratio between the lowest and highest rents had been noted as 1:9 in 1880, 1:4 in 1885 and 1:11 in 1900. We can only conclude from this alteration that in the New South Wales portion of the Warrego Country, the impact of the drought at the turn of the century had an earlier effect on official land appraisal than in Queensland, and that this impact had reinforced the contrasts between the best and poorest country which had been temporarily reduced during the

optimistic years of the late 1880s and early 1890s.[71]

D) Regional development

The regional development of the Warrego country during this period mirrored most of the developments in the pastoral industry. Apart from the general expansion of population reflecting the generally expanding character of pastoral operations, there were interesting evidences of local variations in that development.

a) Population growth

The contrast in timing of the revaluation of land, which resulted from the drought losses and the retardation of pastoral development, between the New South Wales and Queensland portions of the Warrego country was reflected in population figures. While population in Queensland continued to grow up to 1901, in the New South Wales portion the peak of growth had been reached earlier and by 1901 population was declining. This was reflected in the population curves of the main towns in the study area (Figure 20). In 1892, its busy abbattoirs and rail and river connections made Bourke the "Chicago of the West" [72] but by 1901 the town had lost population both from the stagnation of the local pastoral industry and competition from its Queensland rival, Charleville.[73] Within the seven counties south of the border, the total population

had paralleled Bourke's trend, falling from its peak of just over 5,000 in 1891, to 4,200 in 1901. In Queensland the population of the Cunnamulla and Balonne Census Districts, which effectively included the study area north of the border, had risen steadily from 4,200 in 1886 to almost 6,000 in 1901. The Cunnamulla area appeared to have benefited from the arrival of the railway in 1899, however, for St. George (without a rail link east) declined along with its surrounding Balonne District, from 1891 to 1901. The arrival of the railway in 1901 seems to have made a similar impact on the population of Brewarrina, prolonging the upward sing of the population curve after the time when surrounding areas, which had either received the benefit earlier or had not been affected at all, were beginning to reflect the declining fortunes of the pastoral industry. For the area as a whole, however, by 1901 the curve of population growth was beginning to dip and the trend was most marked south of the Queensland border.

b) Agriculture reconsidered

The success of the pastoral industry in the late eighties and early nineties brought a renewed interest in the possibilities for agriculture in the Warrego country. Interest centred upon the possibilities of irrigation from

artesian or river water. Surface run-off was limited, however, and in 1889 the exotic watercourses passing through the country were thought to have too irregular a flow for permanent use:[74] Ironically, this official verdict preceeded the great flood of 1890 by a few months. The main hopes, despite these reservations, had to rest on river supplies, since the artesian water was generally found to be so highly mineralised as to react upon the soil after a year or two.[75] Even where the reaction was slight, the use of irrigated crops as supplementary feeds was only a localised phenomenon and in the absence of a large local market for foodstuffs such as vegetables, it was soon recognised that there was no immediate prospect of extensive agricultural development, either with or without irrigation water.[76] There were other parts of both Queensland and New South Wales much better located and endowed to cater for the metropolitan markets.

5) CONCLUSION AND PROSPECT 1901

To draw together the diverse threads of inquiry, we shall examine the appraisal and development of the pastoral resources of the Warrego country as they had become evident by 1901. Our first concern is with the facade of development, the settlement of the country.

In our study of the years 1884 to 1901 we have found evidence of extensive "failure" of settlement, particularly among the graziers introduced to the Warrego country as a result of the closer settlement legislation. That "failure" appeared to be the result of definite changes in the character of Warrego environment and the inadequacy of attempts to meet the challenge of those changes. The disintegration of the natural vegetation under the continuous assault of sheep, rabbits and droughts had so reduced the carrying capacities of the Warrego country, that by 1901 for the first time the sheep-men lost the bulk of their flocks from starvation. For the first time the limiting factor was recognised to be not the supply of adequate water, but the presence of available feed. As a man of experience had put it, the haystack had been eaten. The speed with which it had been consumed, however, had been increasing steadily as a result of the provision of watering facilities at points previously inaccessible to stock, for not all the changes had been for the worse. Investment of capital in "improvements" had reached its peak in these years in response to the myopic concern of the 1880s for water supplies. Provision of watering facilities had widened, temporarily at least, the scope of the Warrego's pastoral potential before exploitation of this widened scope had, in fact, begun to limit it again.

The limitation of the pastoral potentials and the evidence of "failure" of settlement, however, must not colour our appraisal of the developments up to 1901 too strongly. Not all the dust raised on the plains at the turn of the century came from eroding homesteads, nor should it be allowed to obscure the basic expansion of the pastoral industry at this time. Expansion did occur, for not all the sheep-men were camped on the doorstep of the bank in 1901, and it is here on the reverse side of the picture that perhaps the most interesting observations might be made.

Such success as had occurred by 1901 appears to have been the result of considerable mobility both in time and space. We can find some evidence of this in the concern for the area thought necessary for successful pastoral activities. The inadequacy of the maximum areas allowed for closer settlement leases was the main theme of contemporary opinion, the argument being that the areas needed to be increased to allow for not only the reduced unit-area stock carrying-capacity, but to derive some benefit from rainfall recognised to vary widely within localities. With larger properties the chances of catching the erratic falls was increased and the resting of some of the paddocks might be attempted.[77] In effect, these were arguments for the creation of a certain degree of

mobility of effort to meet the surpluses and deficiencies of pastoral resources which had come to be recognised as typical of the Warrego country. Lack of resources in one locality was to be met by the transference of effort (in this case principally the stock) to others more favoured.

Pleas for increased investment to develop the country also involved the question of mobility. Profits from the pastoral industry were recognised to be variable and opinion was general that to meet the periods of heavy loss, the available capital had to be as large as possible. Short of the banks and lending houses, the argument ran, the only way to create that surplus capital as a reserve was to make the maximum use of the good seasons. In 1901, a grazier from the Darling frontage below Bourke, was asked if he thought his losses would have been less if he had not stocked his land so heavily. "No", he replied, "In a good year you cannot stock too heavily. In a bad year you are nowhere. If we had not stocked, the grass would have gone to waste. It would just lie down and cause fires".[78] Many of the sheep-men were of the same opinion.[79] Exploitation seemed to be more attractive than conservation of the resource through limited use.

The changing impetus of land use over the years created a situation of uncertainty in the demand for labour,

in an industry where the seasonal demand for labour was already unstable. As a result, a large part of the labour force in the Warrego country was of necessity mobile and numbers fluctuated with the seasons. The successful labourer had to be capable of shifting his location to meet the demand for his services and his tents continued to dot the landscape of the Warrego country up to 1901.[80]

The fluctuating success of the pastoral industry was used as an argument for the extension of pastoral tenures to recoup losses from the droughts. Given adequate time in which to turn losses to profits, the sheep-men were prepared to pay what they termed "fair and just" rents.[81] In effect, they were asking for greater mobility in time. With an extended lease they claimed that investment of capital could be concentrated in the good years and withdrawn or at least reduced in the bad years. Mobility in management needed time to balance input and return.

Perhaps the outstanding conclusion to emerge at 1901 in the appraisals of the Warrego country, was the recognition that the success of future development of the industry would depend largely upon the flexibility of land use possible. Too much invested capital was at stake to allow future use to be as reckless as in the past, but since it was recognised that pastoral industry was a series of calculated risks, those risks would have to be taken,

and to ensure their success more investment and the space and time for flexible management were going to be necessary.

CHAPTER 7

SETTLING 1902-1956

With the drought relief legislation of 1901 to 1902, the sheep-men on the plains gained "breathing space" for which they had clamoured. Popular and official pressure to subdivide the properties was eased for a decade and the sheep-men left along to recover their losses as best they could. Yet by 1956, the Warrego country had been subdivided completely for closer settlement; the "breathing space" had been brief.

Before we attempt to explain this apparent triumph of the official closer settlement policy we need to re-examine the general and detailed setting for pastoral operations on the plains. The prospects in 1901 had not been good, but what actually happened in the fifty years which followed?

1) THE TWENTIETH CENTURY ENVIRONMENT

A) The climate of operations for the pastoral industry 1902-1956

In the twentieth century even more than previously the Warrego is not merely part of the semi-arid plains of eastern Australia but of the vast network of world primary

production and trade. Increasingly efficient communications have strengthened the original links with world markets and our study must be aware of this world setting for the pastoral activities north of the Darling River. At the same time, the national political and economic environments continued to influence the pastoral industry and a brief discussion of these variables must precede our detailed examination of the setting for pastoral operations in the Warrego country.

a) The political setting

We need only briefly draw attention here to the survey of official land policies noted in Chapter 2. The point to be stressed again is that the twentieth century saw the continuation of the policy of intensification of land use through closer settlement of people on the land. This mental rut to which most of the official land policies eventually returned, despite the temporary diversion at the beginning of the century, ran broad and deep through the first half of the twentieth century. As suggested in Chapter 3 it seems in some way connected with the Australian Labor Party platform of the basic wage, but all political parties at some stage appear to have supported its essential argument for increasing productivity, population, and the national economy.

b) The economic setting

The twentieth century economic background to the pastoral industry contains many of the elements found previously, but moving into the foreground are new problems: the two world wars, the world depression of the 1930s and the Korean War in the 1950s. Here were crises over and above the previous fluctuations of markets and prices: disruption of trade, restriction of markets and rapid fluctuations between fixed and free prices.

Some idea of the nature of this setting is given by Figure 4. After the steady decline of prices to the low in 1901, the twentieth century is marked by increasing price-levels. The trend, however, shows the effects of the new problems posed after 1901 and the ascent from that date is a slow and uneven one. The increase in prices was not really evident until the rapid rise during the First World War. Controls under the Imperial Wool Scheme restricted prices and sales from 1917 to 1920, but the rise in prices was continued with a brief interlude after 1920, until a peak was reached in 1925. The fall-off in prices as a result of the world depression in the 1930s ushered in a period of rapidly fluctuating prices which were only stabilised (from 1940 to 1946) as a result of the Second World War. The most spectacular twentieth

century rise in prices followed this period of restriction, from 1946 to 1951, and was partly the result of post-war expansion of the world markets and the United States stock-piling programme at the onset of the Korean War (1950-1953). These fluctuations must be borne in mind during our consideration of the narrative of settlement, for we shall see that part of the success of the schemes for closer pastoral settlement appears to have rested upon the occurrence in relation to the rising prices for pastoral products.

The international economic setting, moreover, had a bearing on the amount of "financial confidence" that the pastoral industry could command and in the twentieth century this became an increasingly important prerequisite for further development and even maintainance of existing conditions in the industry. Traditionally, in the late nineteenth century, the pastoral industry had been one of the most attractive avenues for capital investment, but the severe losses of the banking and loan companies at the turn of the century had brought serious reconsideration of the returns which might be expected from investment in so unstable an enterprise. The documentation of the involvement of the financial organisations either in the nineteenth or present centuries is difficult to establish and the amount of the return on their capital was and is

a closely guarded secret; yet there is evidence of strong opinions that the pastoral industry after 1900 no longer had the attraction it once had for investors.[1] In 1927, replying to a questionaire from the Queensland Land Settlement Advisory Board, the Australian Wool Brokers confessed that no records of the profits from pastoral operations had been kept:

> but from their general experience and knowledge, extending over a period of very many years, they have formed the opinion, that the grazing industry is not by any means so profitable to its followers as in former years....a loan is not repaid so rapidly as in past years. 2

If capital was restricted, the people least likely to benefit from its limited distribution would be the small property owners who could offer the least security. The continued division of pastoral properties as part of the intensification of settlement thus further reduced the attraction of the pastoral industry for the capitalists; and any implied "ceilings" on land use or development, such as the reduction of holdings to maintenance areas, must have made many prospective investors think again.[3]

In effect, a new problem confronted the pastoral industry in the twentieth century. The success which appeared to have crowned the renewal of the intensification of pastoral settlement forced the modification of the traditional techniques of pastoral operations. Actual

intensification of settlement forced the intensification of use on reduced areas if the original profits were to be maintained. The question facing the sheep-men and the financial houses, to which they applied for capital to effect this intensification, was whether profits and maintenance areas could exist side by side. Upon the resolution of this problem depended the success of any pastoral settlement.

B) The Warrego country 1902-1956

The success of pastoral settlement, however, was threatened by more than the problems of subdivision, for the deterioration of the Warrego environment was not halted by the drought-relief legislation of 1901-1902 and before we consider the details of settlement, we must establish to what extent this deterioration was continued and what effect it may have had upon the intensification of settlement.

a) Drought

The dominant feature of the Warrego environment in the twentieth century continued to be drought; the question was, whether the droughts were more or less intensive than previously. Droughts continued to be the main cause of stock losses in the study area,[4] but official or scientific interest was remarkably indifferent to their

effects until mid-century. Initial scientific interest was concerned with the problem of definition[5] but attempts to combat the effects of drought on the pastoral industry were, until relatively recently, meagre. Using the available scientific work, however, an attempt was made to draw up a table of droughts for one of the localities in the study area, from which a comparison of the intensity of the droughts before and after 1900 might be made. The results are shown on Table 14.

Comparison of the occurrence of droughts from Table 14 suggests that after 1900 they were more frequent than previously. From 1884 to 1900, Everist and Moule listed 7 "bad" drought years in 21, or 1:3.0; from 1901 to 1951, they listed 19 "bad" years in 50, or 1:2.6. Thus the occurrence of droughts of a given intensity was more frequent after 1900 than before. On the actual intensity of the droughts, James's figures are relevant. Drought conditions for five consecutive months did not occur before 1900 but were a feature of the drought in 1902 and 1915, while a three-month drought period, comparable to that in 1888, occurred four times after 1900; a ratio of 1 year in 21. Not only were the droughts after 1900 occurring more frequently than before, but their intensity appeared to be greater in the sense that drought conditions, once

begun, lasted longer. Contemporary opinion after 1900 was aware that the droughts affecting the plains were at least the equals of any previously and the facts support such a view.[6]

b) Stock feed

Continued and more intensive droughts kept alive the old fears for the natural fodders in the Warrego country. Scientific research, the result of popular pressure bordering on hysteria, began in the early 1930s[7] but found that changes in the natural vegetation were more complex than had been assumed previously. The results of investigations immediately north of the study area showed that in most cases, the natural grasses had recovered without significant loss after the droughts of 1929 and 1933, except where the pressure of stocking had been exceptionally severe. The report suggested, however, that short term changes in the vegetation as a result of normal climatic cycles of wetter and drier seasons could complicate any attempt to distinguish long term changes as a result of droughts.[8] The recognition of what came to be known as a "fluctuating climax" in the vegetation of the western plains was confirmed in 1937:

> For Western Queensland...these changes [of vegetation composition from season to season] are oscillating, not progressive. It is convenient to use the term "fluctuating climax" to denote that condition which appears relatively stable, but which in reality is in a state of unstable equilibrium. A true static climax may never exist.[9]

Evidence since 1937 has generally supported the contention that for the western plains as a whole, seasonal fluctuations of the climate have had so marked an effect upon the vegetation, that long term changes are virtually indistinguishable.[10] What were the details for the Warrego?

For the changes in the Warrego vegetation we have three relevant sources. The records of the Western Land Commission of New South Wales provide evidence of the most recent assessment of stock carrying capacities (graphed on Figure 12 and summarised on Table 16); actual stock densities in the seven counties of the New South Wales portion of the Warrego country form the second source (Table 13); while on the micro-geographic scale are the records of Thurrulgoonia Station, a large property lying south and east of Cunnamulla.

Official New South Wales estimates of carrying capacities for stock, graphed as Figure 12, show that at mid-century most of the country along the New South Wales-Queensland border was not thought capable of carrying the same number of stock considered possible in 1884. The decrease in capacity was usually not great, but when we consider the amount of capital which had been invested in these lands between 1884 and 1949 in attempts to improve those capacities, this slight decrease assumes greater significance. With the continued improvement of watering facilities, the subdivision of paddocks and improved

transport and access to markets, we might have expected a substantial rise in the numbers of stock which could be grazed on this country, instead of which we are faced with a decline.

The exception to the overall reduction lay in the east of the section, on the black soil plains between the Narran and the Barwon rivers. These lay within the county of Finch, which was given the highest carrying capacity at mid-century by the officers of the Western Lands Commission (Table 16). The long-esteemed black soil plains between the Culgoa and the Narran appear by comparison to have lost favour with the officials, despite the fact that they were carrying the heavier densities of stock at the time the estimates of capacity were being made (Figure 12). Officially, at least, the country which had shown least deterioration lay in the extreme east where the rainfall was highest.

Using the actual stock densities for the New South Wales portion (Table 13), the general trend is for densities to decline. Only in one case did actual average densities increase from 1893 to 1926; for the remaining counties average densities had shown substantial reductions by the twenties. The smallest reductions, excluding the county which increased its density, were once more in the east of the study area, within the higher rainfall area; the

increases in density took place in Culgoa county where the densities prior to 1901 had been relatively low and where there may, therefore, have been a delayed development of capacity.[11] The greatest deterioration took place on the far western hard and soft red country, where rainfall was at a minimum.

Finally, we may examine the details of conditions on Thurrulgoonia station.[12] Here is detailed cartographic evidence of the vegetation at certain points in time, together with frequent reports on the condition of the property (either by agents of the owners, the manager himself, or government inspectors) and finally the details of stock carried on the station.

In 1886 when the property was brought under the Queensland Land Act of 1886 (No.33), a map of the vegetation and improvements was drawn up by the dividing commissioner (Figure 21). Comparing this map with two maps of later resumptions from the property in 1912 and 1935,[13] we have some clues on changes in the composition of the vegetation between these dates. There are signs of deterioration; on the 1912 map there is mention of "dead mulga", and by 1935 extensive tracts of mulga had disappeared from the sandy rises in the northwest of the property, while Brigalow scrub had increased in area on the east by 1912. On the

other hand, the area of saltbushes appeared to have increased by 1912 and was still extensive on the lower Noorama Creek flats in 1935.

Reports on the property after 1901 contained evidence of some changes in the vegetation. In 1905, on the eastern portion of the property (part of the original resumed area) pine trees were dead on the sandhills and "most of the coolibah [sic] flats and also the gidyea plains are being overrun with young brigalow. In fact a number of these flats and plains will, in a few years, cease to exist, and will be dense Brigalow Scrubs."[14] Two years later, droughts and grazing by rabbits were claimed to be responsible for the dominance of cotton and saltbushes over the originally grassed plains and inferior grass species were listed for the first time.[15] By 1914, the western part of the holding was reported as "much eaten out"[16] and at the end of the drought, which began in that year, the natural stock feed on the property had been heavily depleted. Having cut edible scrub for his flocks virtually continuously since 1912, the manager in 1915 found the remaining scrub insufficient for drought-feed requirements.[17] In 1917 the grass cover on the plains was patchy and many unpalatable species had become established. Some saltbushes were left on the eastern portion but the government appraiser commented:

> From all appearances, and from what can be learnt about the holding, it appears to have been considerably eaten out, probably by continued overstocking at some time in the past, and afterwards by the incursions of rabbits and with the light annual rainfall--not to have recovered. 18

The timing of this spectacular deterioration is interesting. After 1901, the owners had continued their earlier efforts to improve the watering facilities on the station and by 1908, when the last well was drilled, the property was virtually completely served by artesian supplies and only a small portion remained "unavailable" grazing land in the dry years (Figure 23). Yet the drought of 1914-1916 saw the first widespread evidence of a deterioration of the grazing capacity of the station. Apparently, the wider use of virtually all the property for grazing, made possible by the provision of artesian water facilities, had caused the first real losses in the vegetation on Thurrulgoonia.

Yet a good season brought virtually a complete recovery. The property weathered the droughts of 1927 to 1929 better than many in the district.[19] The droughts of the early forties brought desolation once more,[20] but at the time of the final subdivision of the property in 1950, after good seasons, the country was officially described as "some of the finest breeding country in Queensland." [21]

What of the stock actually carried on the property? The graph of stock densities (Figure 22) shows a remarkable decline in densities after 1900. Generally speaking, the densities after 1900 were rarely more than half the densities previously. If this represents the maximum stock which the property could carry, and there seems to be little evidence of a conscious limitation of stock densities by the owners, then a substantial deterioration of the environment is indicated. This reduction is borne out by the trend in official estimates of the stock carrying capacity, which (while they generally exceeded the actual densities carried) declined substantially from the highest figure in 1894. Even the station managers had to revise their estimates from 20 sheep on every 100 acres in 1901, to 11 sheep per 100 acres in 1929.[22]

What can we conclude from these detailed records? First, it is obvious that a significant reduction in stock carried on the station took place after 1900. In the absence of any evidence of deliberate curtailment of stock numbers, we can only assume that this was the result of a deterioration in the ability of the vegetation to support stock. Of this deterioration there is abundant evidence in the periodic reports on the property and some indications from the available maps. The edible scrubs were killed

off and inedible species of scrubs and grasses spread. Yet it would be easy to exaggerate this deterioration. The reduction from the averages pre-1900, once made, was not continued any further. That is to say, the stock densities after 1900 have not shown any tendency to continue to decline, but on the contrary have remained relatively stable at about half the pre-1900 figure. Individual droughts made their impact but the country appears to have been able to support the original stock, once the good seasons came round again.

On the wider scale, for the Warrego country as a whole, the deterioration post-1900 had been general but of differing intensity. The losses which had taken place appeared to have reflected in part the trend of average rainfall, the areas of lowest rainfall suffering most and the eastern higher rainfall country suffering least. The deterioration of stock capacities however, as on Thurrulgoonia, did not seem to be continuing in the twentieth century; after the sharp initial drop at the beginning of the century, the capacities and stock densities fluctuated but showed no signs of a continuous decline.

c) Land appraisal; the appreciation of the changing setting

The deterioration of the Warrego environment which had had so spectacular an initial impact on the stock densities

was equally apparent in the appraisals of the land for rent. The effect of the drought-relief legislation on both sides of the border was to reduce rents immediately. The figures for the New South Wales portion (Figure 11 and Table 15) show that the greatest reductions affected the hard and soft red country.[23] Most of this country lay in the west of the study area, but the greatest reduction of rents took place on the soft red country fronting onto the Barwon River in the extreme east of the Warrego country.

This reappraisal must have reinforced opinions on the relative contrasts between the country on either side of the Barwon River which had been pointed out prior to 1900 and which were maintained for some time afterwards. In effect this sharp contrast in land quality across the Barwon was the continued justification for the river as the eastern boundary of the Western Division and was used to combat arguments in favour of extending the boundary of the Central Division, with all the changes in possible land tenure that this would entail.[24]

The reappraisal in 1902, however, did not destroy the basic character of land assessment which had been built up prior to 1900. The essential contrast between the eastern and western halves of the study area, divided by a

zone between the Culgoa and Narran where rents rapidly declined from east to west, remained virtually intact. The red country to the west was still appraised at about half the figure for the black country to the east.

In other details there were changes. The location of the maximum carrying capacities had shifted east by 1949. As noted previously, the plains between the Culgoa and the Narran were no longer considered to be capable of carrying the heaviest density of stock, although they were in fact carrying the maximum densities in 1949 (Figure 12). Official opinions had completed a full circle back to virtually the position of 1866, when the carrying capacities were highest in the east and declined to the west and this trend was reinforced in the rent assessments (Figure 11).

How can we explain this phenomenon? The deterioration of the Warrego country after 1900 had affected appraisals as late as 1929, when several of the types of country were still taxed at less than the 1900 figure (Table 15). By 1949, however, all classes of country had been reappraised at rents higher than those in 1900 and the effects of the deterioration of the environment would seem to have been removed. Recovery from the effects of the drought had been swiftest on the Culgoa-Bokhara plains although actual

stock densities favoured the plains further east. None of these facts, however, would explain the sudden re-emergence of the soft red country of the Barwon frontages as the most highly valued country in the Warrego.

A more pertinent clue lies in Table 16, reproduced from the files of the Western Land Commissioner at Bourke. In the original source, alongside the figures for the home maintenance flock, the rent per sheep, and the range of grazing capacity, was a single column of figures, the average rainfall as at 1943. Here we have the clue to the official reappraisals - rainfall. It would appear from this and the graphs on Figure 11, that average rainfall figures played a large part in the dominance of the eastern country, both in estimated stock carrying capacities and in assessment of rents. If rainfall is the important factor, its importance cannot be derived from any significant increase in absolute falls since 1900, since none have taken place, but must be the result of the removal of some factor in the land appraisals which had reduced the original concern for rainfall. Theoretically, such a factor could have been some process of resource use which was seen initially as the solution to some pressing local problem. If the process did not provide the solution originally hoped for, the problem would be raised again.

One process which immediately fits this situation was the provision of artificial watering facilities for stock.

The remarkable success of the search for subterranean water supplies solved the immediate problem of stock water in the droughts during the last decades of the nineteenth century. What was not solved, although contemporary opinion was not aware of or refused to recognise this,[25] was the question of drought-feed for stock. In fact the problem became worse, for with more stock water supplies, the pressure on the fodder could be increased. As long as natural feed was abundant, stock water was the problem; the solution of the stock water problem threw the question of stock feed into the limelight. The removal of the concern for rainfall as a source of stock water did not remove its importance as a factor in the provision of stock feed, and with the deterioration of that feed, rainfall, as the main factor in its survival, came into increased prominence.

2) THE INTENSIFICATION OF PASTORAL SETTLEMENT

A) The sequence

Although the Warrego country was subdivided for closer pastoral settlement by 1956, the process of subdivision did not begin again after 1900, until approximately 1910. Thus the sequence of final subdivision occupied approximately four decades from 1910 onwards and the details of the

reoccupation of the Warrego country during these years are given on Figure 24. Although complete subdivision was not completed until the mid-1950s, the lack of data on ownership forced the maps of occupation to be terminated in 1949, by which date the final plans for subdivision had been approved but not enforced.

After the rehabilitation of the pastoral industry during the first decade of the twentieth century, the intensification of settlement took place at a faster rate in Queensland than south of the border. By 1929, Queensland had more than made up for the relatively poor position of 1901; closer pastoral settlement here had occupied approximately 39 per cent of the area, whereas in the New South Wales portion the figure was only 26 per cent.[26] Twenty years later, the gap had virtually closed and on both sides of the border approximately half the area was in closer settlement; the aim of the 1884 legislation had been achieved at last!

The intensification of settlement by subdivision of holdings did not take the form of a steady process but rather an irregular sequence with long periods of calm, broken by explosive activity when several holdings were subdivided. Thus, in Queensland, extensive areas were opened in the years 1911 to 1916, the mid-1930s and the

early 1950s,[27] and the sequence was approximately the same in New South Wales.[28] This irregular activity does not lend itself to geographical analysis in the same way as the earlier sequences had done. Before 1884, the map of the sequence of occupation was a significant commentary upon the available knowledge and preferences of the pastoralists who took up country in the Warrego. In theory there was no legal limit to their location, the only curbs being the extent of their knowledge and requirements. Even in the years between 1884 and 1901, the speed with which the resumed areas were thrown open to closer settlement enabled the graziers to make some choice for location of their activities, so that within the areas opened for closer settlement a sequence of occupation could be seen as in part a function of the attractiveness of the country to the small capitalist. After 1901, however, with the tighter official control of resumptions for closer settlement, the refusal to open large areas indiscriminately and the irregular opening of more limited areas, the map of the intensification of settlement (Figure 24) has less geographical significance. The popular pressure for land was such that virtually all land opened for settlement was taken up immediately, regardless of its quality. This fact itself was a striking commentary upon the general attitudes towards the land, but it does suggest that for

the prospective settler in the twentieth century, the local variations in land quality had little initial significance.

If the initial occupation of the land for closer settlement from 1901 to 1949 provided little evidence of discrimination in land appraisal, we might expect some evidence in the results of that settlement.

B) The results

a) Land tenure

Following the system used in Chapter 6, the data on legal and effective land tenure were assembled and are shown in Table 17.[29] There is little doubt that in detail this table is inaccurate, but the general conclusions are as correct as the limited sources allow.

The first point from the table is that the area under pastoral lease, whether in large leaseholds or small grazing leases, has remained relatively stable at approximately 80 per cent of the study area since 1901. Similarly, the area alienated has not fluctuated above approximately 2 per cent of the total. Such fluctuations of tenure and use as have taken place on the remaining portion have been between the areas unoccupied and the land held in small holdings of less than 5,000 acres, which we have excluded

from our consideration on the grounds of their size and insignificant proportion of the total area.

The contrasts between the legal leasehold areas and the country actually worked continued into the twentieth century. In the case of the pastoralists, the working areas were usually larger than those areas legally leased to them; in the case of the graziers, the reverse was generally true. In effect, the gains of the pastoralists were at the expense of the graziers. Thus, while the area legally leased to the pastoralists fell from over half to less than a fifth of the study area, from 1901 to 1949, the area actually worked by these men was still almost half the study area in 1929 and over a quarter of the country in 1949. Turning to the details for the pastoral holdings, (Table 18), by 1929, of the 53 leaseholds in the New South Wales portion, 49 still worked a larger area than the portion legally retained in 1884 after subdivision. In the Queensland portion, however, all the leaseholds were effectively less than the leasehold area remaining in 1884-1886. Here, the real cause for the greater size of the effective over the legally controlled area in 1929, had been the creation, on certain of the resumed areas, of new pastoral leases offering larger areas on less stringent terms than in the country opened for closer settlement.

By 1949, these leases had generally lapsed (Table 18) the pastoralists had lost control of a large part of their original holdings, and even with the areas worked along with their legal holdings, controlled only a fifth of the Queensland country. At the same date, the New South Wales pastoralists were in a superior position. Effectively, they had retained control of a larger portion (one-third) of the country and although the number of leaseholds had dropped to 37, of these, 15 still controlled areas larger than those remaining in 1884. Closer settlement had appeared to be more successful in breaking down the areas controlled by the pastoralists in Queensland than in New South Wales, but on both sides of the border even at mid-century the areas legally held for closer settlement included country which was effectively still under the control of the larger properties.

b) Lease ownership

i) Composition

The intensification of pastoral settlement made less than the expected impact upon the picture of lease ownership. The figures set out on Table 19 show that individual ownership of pastoral leases in the study area recovered only slowly from the low in 1901, when just over 33 per cent of the total area was in their hands. By 1949, when legally over 60 per cent and effectively 52 per cent of the Warrego

had been occupied for closer settlement, individuals held only 43 per cent of the total area.[30] Compared with the "golden days" of 1879, when they controlled 68 per cent of the study area, individual ownership had made only a slight recovery from the setbacks experienced at the turn of the century.[31] The aim of closer settlement had been to establish individual ownership and yet the area under their control increased only slowly. What were the complicating factors?

Some clues to the processes working to restrict the country controlled by individuals can be found in Table 19 by examination of the areas controlled by the other forms of ownership. Land held by partnerships increased in area throughout the period 1901 to 1949, but the proportion under company ownership fluctuated. The peak of company control came in 1929, with 44 per cent of the area under lease and 35 per cent of the total area, but at this date the position of 1901 had been reversed in that the bulk of the country was controlled by "work" rather than "loan" companies. By 1949, a decline in the area controlled by these "work companies" had brought the company proportion down to 23 per cent of the total area. The area controlled by the "loan companies" remained remarkably stable at about 10 per cent of the total area throughout the period although the banks disappeared from the scene shortly after 1901.

These figures have bearing not only on the question of the slow growth of individual ownership, but also the economic questions raised earlier as the setting for the closer settlement process. The trends of lease ownership suggest that the twentieth century occupation of the Warrego country has been continued only by the help of capital inflow, represented by the amalgamation of funds in partnerships or "work companies" or by outright mortgage of the land to "loan companies". At mid-century, 45 per cent of the area in pastoral lease was in fact controlled by organisations whose capital was probably larger than the resources available to the bulk of the remaining individual owners. The proportion of this country had declined from 1929, when it was about 57 per cent, but was still significant.

Further clues to the slow development of individual ownership lie in the continuity of lease ownership as shown in Figure 14 and Table 20. After the initial loss of total owners over the period of retrenchment and rehabilitation from 1899 to 1909, the total number of lessees in the study area increased slowly from 1909 to 1929, and levelled off to 1939 before climbing again to 1949. None of the increases were as rapid as increases experienced in the nineteenth century although the absolute total of lessees was quadrupled over the fifty years 1899 to 1949.

ii) Continuity

The continuity of ownership in the twentieth century continued to be low although there were some changes by comparison with earlier years. At each succeeding "check-date" in the period, although the new arrivals increased in numbers, their proportion of the lessees was slowly reduced, so that after being 78 per cent of the owners in 1899, the new arrivals at 1949 formed only 48 per cent. Further, the continuity of ownership through the period, although still low, was improving. Prior to 1899, the passage of twenty years had usually seen the loss of 90 per cent of the original owners; after 1899 the loss was nearer 70 per cent. This slight decrease, however, should not blind us to the main feature of continuity of ownership, which in the twentieth as in the nineteenth century was its absence. Were we to take any point in the sequence of lease ownership and compare the owners with those present ten years earlier, all the evidence suggests that we should find that at least half of the original owners had disappeared from the scene. Such a high turn-over in ownership must have meant that many of the closer settlement holdings were transferred to new owners very rapidly after they had been taken up for the first time, and it may have been a case of the original individual owner transferring his interest to a partnership or company, or even to another

individual already established in the area. If so, this would partially explain the slow overall increase in numbers of individual owners. The question of lease transfers, however, deserves further investigation.

iii) Mobility

The records of the Western Lands Commission provide details of the transfer of ownership for each lease in the Western Division from approximately 1901 onwards and relevant data for the study area were assembled and graphed as Figure 25. The data were divided, according to the type of lease, between the original pastoral leases and the closer settlement leases established on the resumed portions of the original holdings, and only leases with comparable time-spans were plotted. This accumulated evidence shows that the greatest turnover in ownership, represented by the peaks of transfers, usually came at the end of a series of good seasons immediately preceeding the droughts. Thus, the number of transfers increased generally from the low in 1903 to a peak in 1911 before the onset of the drought which lasted until 1916. A more spectacular build-up of transfers took place prior to the droughts which began in 1927 and 1935, and in each case the onset of the drought brought a sharp dip in the trend

of lease transfers. We might also see an association between trends in the annual wool prices at Sydney and the turn-over of lease ownership. Certainly, increasing prices 1915-1917 mirrored increasing transfers, and a similar situation occurred between 1922 and 1925, in 1934, and from 1935 to 1937. After 1945, however, despite rising prices and good seasons the numbers of transfers did not increase as fast as previously in similar conditions and this delayed response is difficult to explain, unless it reflects the closer official control of transfers made possible by the "Western Lands (Amendment) Act" of 1945 (No.23 which aimed to prevent speculation in lease transfers by limiting the price asked for the lease at transfer.

Up to the end of the Second World War, the sequence of changes in lease ownership in the Warrego country appears to have been cyclical. With the rehabilitation of the pastoral industry after 1901, the attractions of pastoral property had been revived, good seasons improved the prospects and increasing confidence appears to have built up a market for properties. At the first appearance of drought or a serious decline in the price of wool, however, fewer people came forward to buy properties and the turn-over of ownership therefore declined. The end of the drought did not see an immediate rise in the transfers of property,

but with each succeeding good season more properties changed hands until some set-back of wool prices or seasons began the cycle again.[32] This cycle was visible in the mortgage transactions, which, like transfers, reached their peak in the good seasons or at times of high or increasing prices for wool. If we see the initiation of mortgages as the expression of a need for capital, then the timing of this initiation, as between two contracting parties, is interesting. Obviously, the worse the position of the prospective mortgagor, the less chance of completing a contract; the better his security in terms of land tenure, seasons and prices for his product, the greater the chance of a contract. The cycle of mortgages therefore reflected, possibly even more directly than mere transfers, the attraction of the pastoral properties for the capitalist.

Thus the low continuity of lease ownership reflects a cyclical sequence of transfers of ownership. Successful pastoral operations, in terms of good seasons and high wool prices, were reflected in the easing of credit facilities for capital investment, yet at the same time that the operations of the industry were so successful, more and more of the lessees were relinquishing their holdings, thereby, from the official viewpoint and

according to our definition of successful settlement, nullifying the closer settlement policy. Here again is the problem raised earlier in Chapter 6: is the "successful settler" the man who stays on the land or the one who sells out at a profit and moves on? Before we try to answer this, we will examine the third factor in our assessment of the results of the intensification of settlement, actual land use.

c) Effective land use

Intensification of settlement implied intensification of land use and we must establish to what extent this did take place. In the consideration of pastoral land use, the complicating feature has been the obvious deterioration of the environment which would have tended to reduce the intensity of land use over the years, other things being equal. The problem is that other things were by no means equal - technological developments, experience, and the closer settlement policy itself all tended to intensify use, and the conflict of the opposing trends makes the analysis of general developments in land use difficult.

Previous evidence has suggested that although there had been no serious reduction of carrying capacities after 1901, there had been no significant increase either, despite a half-century of investment and intensification

of settlement. Was land use being intensified? Ideally, a case study of a holding successfully subdivided and occupied pre-1901, for which stock data on both the original holding and then the leasehold and grazing leases (on the resumed portion) were known, would provide some commentary on this question. Calculations were made on these lines for the Thurrulgoonia station and its resumed area, but although the results showed that not only were less stock carried on the area of the original (pre-1884) holding after subdivision and occupation for closer settlement, but also that the graziers were carrying fewer stock than the original lessees, such results have little real significance because the stock density on the leasehold area was halved after 1900 anyhow, and although the graziers' stock densities were more than halved, they had inferior country to start with.[33]

The problem is that statistical evidence to support any positive conclusion on the question of the trends in land use is generally lacking. Opinion among the Western Land Commission officers was that most of the smaller holdings in the study area were stocked at heavier rates than the adjacent larger properties and there is some evidence of this trend,[34] but such heavy stocking could not compare with the densities pre-1901, nor would the

officers desire such a return to past conditions. Opinion in official circles has come to realise the futility of encouraging stock rates equal to those achieved before 1901, and instead has come to accept that land use in the twentieth century, despite the achievements of technology and the subdivisions of holdings, has to be at a less intensive rate than before. Intensification of settlement has not been able to counteract the effects of the deterioration of the environment on the intensity of land use, but what of the population?

d) Population growth

The growth of population in the Warrego country during the twentieth century has not been spectacular. Following the drought in the early years of the century, the population fell slightly, paralleling the decline in lessees. With the subdivision of holdings after 1911 came a slow increase of total population to 1933 and 1947 before a speeding up of the process from 1947 to 1954.[35] At this date the population had almost doubled the 1901 figure, but as representing the growth of fifty years, it is not impressive.

Town growth generally reflected the hesitant increase of the total population. From 1901 to 1954 the increase of urban population was relatively slow for the towns within

the study area, the only significant upswing in the graph (Figure 20) coming at the end of the period, between the 1947 and 1954 censuses. During the period 1911 to 1921 both the New South Wales towns lost population, and from 1911 to 1947 urban population grew very slowly. The impact of closer settlement upon the urban development of the Warrego country was slight and the upswing in the curve of population growth between 1947 and 1954 seems to have been a reflection more of the tremendous increase in the prices of wool than the subdivision of the remaining pastoral holdings.

Even the non-pastoral activities in the Warrego made little contribution to the growth of an urban population. With the exception of the irrigation scheme at St. George, the success of which is still in doubt,[36] agriculture was of no major importance in regional development. The mining of opals had some fluctuating importance but the impact on the landscape has been limited to a few shanties and tents dotted about with small white spoil heaps beside abandoned shafts.[37]

3) CONCLUSION AND PROSPECT

A) Past experience

The experience of pastoral settlement in the Warrego country during the first half of the twentieth century fell

into two distinct categories. On the one side were the determined and generally successful efforts to subdivide the pastoral holdings and intensify pastoral settlement; on the other side were obvious indications that these activities were being carried out in a changing environment. The efforts to intensify settlement were taking place in country where the trends were all towards the depreciation of returns per unit area. To maintain the same density of stock as previous years, considerable external stimulants in the form of capital investment in water and feed supplies would have been necessary, since the inherent feed supplies were at last showing the effects of the increase in stock densities made possible by improved watering facilities at the end of the nineteenth century. Despite the evidence of capital investment in the continued high proportion of land leased by partnerships and companies and technological developments in the industry, the actual stock densities were significantly reduced and have remained at this reduced level throughout the twentieth century.

Attempts to intensify pastoral settlement were impeded by the historical trend, on not only the Australian but world scales, for the rural population to migrate to the towns. Partly as a result of the "push" from the rural areas affected by more efficient production methods,

partly "pulled" by the amenities of the urban environment, the rural worker needed more than government closer settlement schemes to keep him in the country. Thus, in settling small-holders on the divided estates, the authorities appeared to be sailing against the historical drift to the towns.

Yet, by mid-century, the physical processes of closer settlement had given the impression of success for the large holdings had at last been reduced to maintenance areas. Mere subdivision, however, did not bring lasting intensification of settlement, for we have seen that many of the new men were very willing to sell out at the earliest opportunity in the good seasons. Left to itself, settlement on the plains tended to lose its intensity through the amalgamation of some of the separate units into larger holdings and a consequent reduction in the number of lessees in the area. Once again, the official policy seemed to be contradicting a well-established trend in land tenure and use.

B) Prospects

For the future we may forecast a continuation of this "conflict". Since the Warrego country has been already officially subdivided into maintenance area units, there should theoretically be no need in the future for further subdivision if the conditions in the pastoral industry

do not change substantially. Yet it is possible that subdivision may be enforced again, even without changes in the condition of the pastoral industry, for all the trends in the past have been towards the amalgamation of property, apparently by the best managers or persons best able to work the country. Such holdings after a period of time must consist of areas much larger than the minimum maintenance area and would be looked upon by the government as a possible source of future subdivision and intensification of settlement, despite the fact that the few owners might be using the country more efficiently than more owners and intensive occupation could.

Further subdivisions will be inevitable if technological improvements reduce the basic area thought necessary for maintenance. Such developments might come from a significant increase in the average wool clip per sheep, the evolution of a cheap artificial drought feed, or even from a permanent increase in wool prices. Whatever the cause, opinion would form that the minimum maintenance area could be reduced and more people settled per unit area than before. The subdivisions would then begin again, with probably the same limited success as before, but at least it seems likely that they would not have to fight against a deteriorating environment.

CONCLUSION

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WESTERN MAN AND THE SEMI-ARID PLAINS

From the initial contact to mid-twentieth century the settlement of the semi-arid plains of eastern Australia by Europeans and their descendants has been pastoral in character. In an environment where commercial agriculture has been recognised to be impracticable except on a prohibitively small scale, settlers have looked to the grazing of livestock for a livelihood. Initially dependent upon the breeding of horses and cattle for domestic markets, settlement since the last quarter of the nineteenth century has been sustained by the production of wool for the international markets. Development of the resources of the plains has, therefore, been in terms of the extent to which the environment would support such production.

To study the nature of the development of these resources, we have made our investigations on two and occasionally three levels of intensity. The general investigation in Part I suggested that settlement had been significantly affected by the variety and changing nature of concepts of the plains environment, official closer settlement policies, and the apparent reluctance of many of the settlers to regard their residence on the plains

as permanent. Investigations into the detailed development of the Warrego country supplemented by evidence from properties in the area offered further commentary on these points and the findings are summarised under three headings; the nature of the plains environment, the character of settlement, and a final comment on the past and possible future appreciation of the plains.

1) THE NATURE OF THE PLAINS ENVIRONMENT

In 1884 the Town and Country Journal complained that the "vast majority [of the stockmen] seem to think that once a drought breaks up and abundance follows, there will never be any more droughts, but always good seasons." At mid-twentieth century this was no longer true; most stockmen were aware of the nature of their environment, although whether they were prepared, or able, to do anything about the uncertainties of the rainfall was another matter.

A) Limited returns

The impact of the uncertain rainfall upon the vegetation was noticed from the first contact, but the appreciation of its significance for the pastoral industry was delayed until the twentieth century. That the seasonal fluctuations in rainfall could be marked by equally important fluctuations in the vegetation was not scientifically accepted until Blake's "fluctuating climax" of the 1930s.

Yet long before this concept was accepted the facts had made their impact on the pastoral industry. Where seasonal conditions fluctuated so widely, the average conditions were not impressive; wide fluctuations in the vegetation meant low average carrying capacities and a low average return per unit area. This low productivity was in fact dominating actual development long before the reasons for it were recognised; in every-day terms it meant that the stock-man could not spend more on developing his land than he got from it in profits. If profits per acre were low, obviously his investment per acre for development of the resources had to be limited.

Not only were the returns limited, but strong claims were made that they had declined over the years. Our investigations have shown that long term deterioration of the vegetation is difficult to distinguish from short term seasonal fluctuations; the arguments for or against deterioration largely depended upon the conditions at the time when the investigations began and ended. Yet there was evidence of some deterioration in the capacity of the country to support stock, if only from the lack of response to attempts to intensify that capacity. Fewer stock grazed the same area as before.

B) Exploitation

Fluctuations in the natural stock-feed supplies encouraged the adoption of stocking practices to make maximum use of the currently available feed. To stock the country lightly on the assumption that drought was imminent would have been impracticable, because the income from so few stock would have been insufficient to maintain occupation; to stock heavily in the good seasons and carry the large numbers of stock through the droughts by use of external feed supplies faced practical difficulties and needed impressive capital reserves; to stock heavily and chance the drought losses was risky but more attractive to men of limited capital hoping for quick profits. Their decision must have been encouraged by the knowledge, current by the 1880s, that unused feed was always destroyed either by drought or bush fires. The great lesson learned on the plains was that restricted use did not conserve the resource; feed came and went with the seasons whether it was used or not and the limited returns discouraged costly methods of artificial conservation. Exploitation of the resources as they occurred, or what might be termed "opportune use", appeared to be the practical solution on the plains.

C) Recognition of the nature of the environment

To date the initial recognition of the nature of the environment is difficult. The stockmen were apparently unaware of the changes which could take place on the plains until the disaster in 1900-1901. Even after this date, many continued to be over-optimistic about the development of the plains, although whether from a real faith in the environment, a psychological urge to possess land, or an eye to land speculation, is debateable. For the majority in the twentieth century, however, a more cautious attitude was evident; with a century of investment in buildings, fences, and watering facilities at stake, risks were less attractive than previously.

Official recognition of the plains as a unique environment requiring separate administration came in New South Wales in 1884, but there has been no equivalent development in Queensland, although here, as in New South Wales, legislation on land settlement has made some allowance for conditions on the plains. In the official attitudes of both New South Wales and Queensland, however, the basic concepts for development have been and largely still remain in terms of alien conditions, i.e. concepts basic to agricultural rather than pastoral development. This explains in part the attempts to settle the plains

as intensively with the same "thriving yeomanry" as was to be established on the farm lands. Such attempts, as we have seen, met with great difficulties.

2) THE CHARACTER OF SETTLEMENT ON THE PLAINS

A) The sequence

The occupation of the plains can be seen as taking place in three stages. From the first contact to about 1880, the emphasis was upon the exploitation of the grazing potentials (mainly for the breeding of cattle) with minimum investment in the country. The technological revolution which took place in the pastoral industry in the 1880s extended the effective area of pastoral operations on the plains, and encouraged capital investment to meet the growing world market for wool. From 1880 to the turn of the century was the "golden age" of the pastoral industry, when continued exploitation was intensified with the aid of large capital investments and the development of latent resources. The virtual collapse of the industry at the turn of the century reduced the capital inflow, brought a reappraisal of the deteriorating environment, and ushered in the final period of limited development with reduced investment.

B) The settlement

The dominant characteristic of settlement on the plains has been its mobility in time and space. The pioneers roamed at will over the unleased plains and their successors spread their interests over many localities through constant transfers of the leased properties. Practical difficulties, physical hardships, lack of capital, and an eye for a quick profit made for much coming and going, but although many came, few stayed on the plains.

C) The settler

The plains stockman, perhaps even more than the farmer, was an individualist. The pioneers explored for themselves or sent their agents; even the finance companies were dependent upon their station managers for a part of the success of their activities; and in many partnerships there were "sleeping partners". Success on the plains depended, in fact, not only on the environment and the state of the markets but on management; even in the disaster of 1900-1901 there were good managers who survived.

With so much emphasis upon the action of individuals, it is not surprising to find that the few rogues had ample scope for their activities. Remoteness and the general lack of knowledge of the country, a low density of population

and a highly mobile form of capital in the form of stock, encouraged the "grass pirates", whose homeless flocks plundered the public stock routes and vacant grazing lands until well into the twentieth century. Stock stealing began early and lingered late, and the speculators hovered at every subdivision.

3) THE APPRECIATION OF THE PLAINS

A) Past

The unofficial attitude to the plains over the last century has been characterised by exploitive rather than conservative use of the pastoral resources. It has been an attitude founded upon an impressive array of experience in the conditions peculiar to the plains, and one which has in fact prolonged the initial appraisal of the pioneers long after we might have expected it to have disappeared.

The official attitude has usually opposed this concept of exploitation of the resources, hoping instead for an extension of the intensive and conservative land use from the more humid east on to the plains. Subdivision for closer settlement was not finally achieved, however, until mid-twentieth century, and the delay illustrates the difficulties facing any attempts to intensify settlement on the plains. The success of such settlement is still

in doubt in an environment where the low productivity has so limited investment and development of resources that the land appraisals are still largely in terms of rainfall.

B) Future: Opportune Use

Western Man has not yet fully come to terms with the semi-arid environment of eastern Australia and there is a moral here. The contemporary appreciation of the development of world resources is dominated by traditional concepts of restrictive or conservative resource use; the world is being viewed from the gullies of Georgia and through the dust-clouds of Kansas. Yet all the experience of successful occupation of the semi-arid environment ridicules this concept. From a rock on the edge of the plains, we have seen that exploitation of the evanescent resources, or what we have termed "opportune use", has paid the real dividends. May not this be the case elsewhere? Can concepts of world resource use learn anything from "Back of Bourke"? I believe they can, and that while future use of the plains may require some retrenchment of the intensity of settlement and greater emphasis upon controlled exploitation of the fluctuating resources through greater mobility of investment and land use techniques, on the world scale the dominance of the traditional concepts of conservative resource use needs to be broken and the experience from the plains considered.

ABBREVIATIONS

ABBREVIATIONS

ANU	Australian National University
APR	Australian Pastoralists' Review
CCL(B)	Letters from the Commissioner for Crown Lands (Brisbane), with date and file number.
CCL-CS	Letters from Crown Lands Commissioners (NSW) to the Colonial Secretary, with date and file number.
CLO(G)-I	Letters from Crown Lands Office (Gwydir Pastoral District) to individuals, with date and file number.
CLO(LP)-I	Letters from Crown Lands Office (Liverpool Plains Pastoral District) to individuals, with date and file number.
CS-CCL	Letters from the Colonial Secretary to Crown Lands Commissioner with date and file number.
CSIRO	Commonwealth Scientific and Industrial Research Organisation.
CSO-LG	Colonial Secretary's Office (NSW), local government records, with date and file number.
Enc. Soc. Sci.	Encyclopaedia of the Social Sciences
GMC	Goldsbrough Mort Company Records, held at the ANU, with date and file number.
HRA	Historical Records of Australia, with date, series and page number.
HSANZ	Historical Studies of Australia and New Zealand
LD	Records of the Department of Public Lands, Brisbane, with date and file number.
Linn. Soc.	Linnaean Society of NSW.
LLB(Bk)	Records of the Local Land Board, Bourke, NSW, held personally.
LSAB	Land Settlement Advisory Board, QLD, QSA 30/66.
MBC	Moreton Bay Courier
ML	Mitchell Library Collection, with file number.
MLA	Member of the Legislative Assembly.
MS	Manuscript
NLC	National Library Collection, Canberra, with file number

NSW	New South Wales
NSW GD	Governor's Despatches from NSW, with volume and date.
NSW GG	Government Gazettes of NSW, with date.
NSW PD	Parliamentary Debates of NSW, with date.
NSW PP	Parliamentary Papers of NSW, with date, volume and page.
NSW VP	Votes and Proceedings of the Legislative Assembly of NSW, with date, volume, and page.
Q-1234	Question number 1234 of evidence (to "Select Committees" etc.).
QAJ	Queensland Agricultural Journal.
QJAS	Queensland Journal of Agricultural Science.
QLD	Queensland.
QLD GG	Government Gazettes of QLD, with date.
QLD PD	Parliamentary Debates of QLD, with date.
QLD PL	Parliamentary Library Collection, Brisbane.
QLD PP	Parliamentary Papers of QLD, with date, volume and page.
QLD VP	Votes and Proceedings of the Legislative Assembly of QLD, with date, volume, and page.
QSA	Queensland State Archives, with file (accession) number.
RAHS	Royal Australian Historical Society.
RGS	Royal Geographical Society (London).
RSNSW	Royal Society of NSW.
RSQLD	Royal Society of QLD.
RSSA	Royal Society of South Australia.
S-SG	Letters from the surveyors to the Surveyor General (NSW), with date and file number.
SCS	Soil Conservation Service (NSW).
SG-S	Letters from the Surveyor General (NSW) to surveyors, with date and file number.
SIC	Squatting Investment Company Records held at the ANU, with file number.
SMH	Sydney Morning Herald.
TCJ	Town and Country Journal.
Trans.	Transactions.
WC	Warrah Papers held at ANU, with file number to first series.

WLC/LA 123	Western Lands Commission Records, file of Leasehold Area number 123.
WLC/WLL 123	Western Lands Commission Records, file of Western Land Lease number 123.
WP	Warrah Papers held at ANU, with file number to second series.

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PRIMARY SOURCES

A) Official Records

a) Archival materials

Four main collections of archives were consulted, two in Sydney and two in Brisbane. In Sydney the records of the Western Lands Commission contained some of the early subdivisional surveys of the 1880s and the records of official business with each Western Land Lease since 1902. Such records included maps of the properties showing vegetation and improvements. The Mitchell Library Records contained some of the Lands Department Records dated prior to the 1880s, and included the original surveys of the plains, the Depasturing Licence Books, and Registers of Pastoral Runs. Also found here were many of the rarer secondary sources.

At Brisbane, the Department of Public Lands Records contain the files of official business with properties on the plains since the 1880s and a large collection of the original survey maps dating back to the separation of the colony in 1859. Several of the older records are in process of transfer to the Queensland State Archives, where the records of the Survey Office including many of the outdated published maps of land tenure are being filed.

b) Legislation

A list of the relevant legislation consulted forms Appendix II. The Acts were published in the Government Gazettes of the two colonies. Matters relevant to land legislation were also noted in the Votes and Proceedings, Parliamentary Papers, and the Debates of the Legislative Assemblies and Councils of the two colonies.

c) Reports of Official Investigations

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B) Independent Records

a) Company Records

Three collections of company records were consulted, all forming part of the business archives held at ANU. The Goldsbrough Mort Company Collection and Squatting Investment Company Collection contain the records of these two companies which were concerned with financing pastoral development on the plains. The records include documents on the working of properties held by the companies, reports from station managers, balance sheets, maps of the country and its improvements, and returns of wool clips, etc. A third source was the records of the Australian Agricultural Company, particularly the Warrah Papers, which contained the reports of agents sent to investigate properties on the plains in the late 1870s and early 1880s and provided detailed surveys of vegetation and the state of the country at that time.

b) Memoirs

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