THE occasion of the twenty-first Annual General Meeting of the Society provides an opportunity to take a backward look over the years in which the Society grew up to full stature. While an account of the proceedings of the Society over the past twenty-one years would in itself be both interesting and revealing, I feel that it might be more useful to trace the growth and development of forestry, forest policy and forestry thought in Ireland as revealed in the papers of our Society's Journal—Irish Forestry.

The journal of the Society provides a ready source of information on forestry developments through the years, more particularly, the record of the President's Address to the Annual General Meeting of the Society, which reviews the advances in forestry or forestry knowledge during the year. I have relied largely on this source in compiling the review and I should like to commend these presidential addresses to anyone wishing to have a fuller account of recent Irish forest history.

The inaugural meeting of the Society was held in Dublin on the 21st September, 1942. The Society thus came into existence at a time when the country in general, and forestry in particular, was going through a rather testing period with the impact of shortages growing more pressing with every passing month.

Already by the Spring of 1943 there must have been some sign of a silver lining, because on the occasion of the first Annual General Meeting held in February of that year, the President looked forward to better days to come.

In his address, the President, Dr. M. L. Anderson, discussed the Emergency Powers Order which fixed maximum prices for timber. "This latter order", said the President, "gives the growers for the first time a suitable basis for securing a satisfactory price for their growing timber. The prices are adequate and growers should be securing a high enough return from timber sales to enable them to carry out satisfactory and ample replacements. They should also bring growers to realise more fully the value of their growing timber." It may be of interest to record here the maximum prices of some categories of standing timber as of January 1944.

* A paper read by Professor Clear at the Twenty-first Annual General Meeting, 1963.
Larch, 12 inches Q.G. Breast Height and over. 1/3d. per Hoppus ft. (less 10% bark allowance).

Conifers, other than larch, 8 inches to 113/8”. 8d. per Hoppus ft. (less 10% for bark).

Oak—well grown selected trees 20” B.Ht. Q. Girth and over. 2/6d. per Hoppus ft. (less 10% bark allowance).

Oak, whole parcels, 14” or over. 1/6d. per Hoppus ft.

Beech, selected trees, 14 inches or over. 10d. per Hoppus ft.

Practically the only source of supply of timber at the time was the private woodlands of Ireland of which it was said in 1943—"There is no doubt that generally private forestry is at a very low ebb." There was apparent satisfaction in official quarters that the private owner was enjoying, at long last, a reasonable, if strictly controlled, return from his woodlands and that these adequate prices would provide a very necessary shot in the arm for private forestry.

With regard to State Forestry, the President hoped "that during this difficult time the Government will find it possible to maintain its afforestation programme to the fullest extent possible and that steps will be taken to resume the process of expansion of the State forestry programme which was interrupted by the present emergency".

An event occurred at the First Annual General Meeting which deserves mention in any review of Irish Forestry. At this historic meeting, Mr. A. C. Forbes was elected first Honorary Member of the Society under Article IX of the Constitution of the Society which provides that "The Society shall have power . . . to elect as honorary members persons who have rendered notable services to the advancement of forestry knowledge". The President, Dr. M. L. Anderson, introducing Mr. Forbes, recalled how in 1906 he, Mr. Forbes, had to start single-handed to lay the foundation of the State forests, not alone by his afforestation work, but by forming the nucleus of the technical staff and organisation required for future development. "In fact," continued Dr. Anderson, "all of us who are now employed in the State Forest Service are in a sense heirs of Mr. Forbes and still work along the lines initiated by him".

Mr. Forbes, in his reply, expressed the opinion that the Society of Irish Foresters was the first Forestry Society ever established in Ireland which showed promise of a long and successful life. He was sure, in fact, that our Society would have a long and successful career.

The year 1943 was a notable one for post-war plans of various
A Review of Twenty-one Years of Irish Forestry kinds. Forestry came in for more than its share of notice by the planners, and the first issue of *Irish Forestry* contains many reviews and notices of articles and proposals concerning post-war forestry policy, that appeared during that very lively year.

Notable among the forestry publications of that year reviewed in *Irish Forestry* Vol. 1 No. 2 was the Report of the Minister for Lands covering the period 1938 to 1943. The Report stated that the programme then envisaged aimed at the creation of a forest estate of 700,000 acres, of which, 600,000 would be productive and 100,000 acres protective. This figure of 700,000 acres was mentioned in several contributions in the Journal that year. One reviewer, dealing with a publication which called for large-scale afforestation among other things, comments "The Forestry Division seems to be encountering great difficulties in their attempts to achieve their annual planting programme of 10,000 acres". Indeed, the planting programme in that year was 4,022 acres—a fine achievement considering the prevailing conditions.

In a further review in the same issue there is what appears to be official or professional comment on what was then considered to be a grossly exaggerated forecast of monetary returns from forestry plantations. "At present maximum prices, an annual yield of 100 cubic feet of timber (a yield possible only on the best hill sites) would bring a gross return of £2 per acre. When production costs are subtracted the best nett return one could expect is £1 per acre and the average from all land might be as low as 10/6d. A fully stocked 40 year old stand of spruce would carry 4,000 cubic feet to the acre, so that at the present maximum price of 10d. per cubic foot, the most one could legally get is £150 per acre." Now, twenty years later in 1963, we would expect to get at least £500 for the same acre.

Private planting costs in 1943 worked out at £16 per acre and the planting grant was £4 per acre for a block of 5 acres—according to a well-known expert on private forestry, writing in the Journal in that year.

A report that aroused much interest in late 1943 and early 1944 in forestry circles here and abroad was the White Paper on Post-War Forestry Policy by H.M. Forestry Commissioners for Great Britain, dated June 1943. The report was reviewed in Vol. 1 No. 2 of *Irish Forestry*. The reviewer took the opportunity to compare State forestry in Ireland with State forestry in Great Britain and we get a valuable commentary on many of the major issues of State forest policy raised by the British Forestry Commissioners.

On the technical side, the reviewer agrees with the authors of the White Paper that "It is better to wait a year or two than to plant the second best or wrong kind of tree on a given site", and adds by way of comment "Some of the enthusiastic amateur planners would do well to consider this point seriously".

"In most places it is still a waste of time to plant without netting",
quotes the reviewer, and adds—"This needs no comment". The Myxomatosis disease which practically eliminated the rabbit in the next decade was still unheard of here in 1944. In 1963, however, the rabbit has once again become a factor to be reckoned with and there are signs that in the future it may again be "a waste of time to plant without netting".

Among policy issues raised by the Commissioners' Report and discussed by the reviewer in Irish Forestry, were the necessity for an ad hoc Forest Authority, the need for higher professional qualifications in the technical ranks of the State Forest Service and the need for an adequate provision for research, education and information. The reviewer challenges many of the recommendations made in the White Paper and expresses views that make interesting reading to-day. On the subject of research and education, for instance, we read—"In respect of this matter improvements are, doubtless, desirable, but that is a development which must be held over until the Forest Service begins to pay its way. It is possible to improve techniques considerably without indulging in heavy special expenditure which is not yet absolutely necessary"!

The President, in his review of the year 1945, complains—"I started to take notes on what was happening in the forestry world, but it soon became borne in on me that, though the year gave promise of many remarkable events, when the annals were to be written, forestry would receive scant attention". With the war reaching a crucial stage in Europe and with the pre-occupation with the pressing and immediate shortages of food and fuel, afforestation was understandably, not making headline news. A worthwhile 4,230 acres of new forest was, however, planted and an increase of £93,000 was secured for forestry purposes.

The year 1946 was reviewed by the President at the Annual General Meeting held early in 1947. He spoke of the new Forestry Act of 1946 which had just appeared in print and also reported that the Dail had voted a sum of £287,000 for the work of the State Forestry Department in 1946. The area planted in 1946 was 3,598 acres, the lowest figures recorded since Forestry became the responsibility of the Minister for Lands in 1933.

No review of the Irish Forestry scene in 1946 would be complete without mention of the departure from the country of Dr. M. L. Anderson. Dr. Anderson, it will be remembered, was the principal founder of the Society, and held many offices during the formative years, notably President, Editor and Excursion Convenor. In his official capacity as Director of Forestry, he was responsible for many developments in the difficult war years when the activities of the Department were switched from afforestation to mainly utilization to meet the urgent demand for timber.

Two notable events destined to have a profound effect on Irish
forestry were commented on at the Sixth Annual General Meeting held on March 16th, 1948. A new Government had come to power and delegates from Ireland had attended the Commonwealth Forestry Conference held in Britain. The delegates brought home news of great developments in technical forestry in Britain and elsewhere and saw first-hand evidence of the profound impact of research in British Forestry. It appeared that a major break-through in afforestation techniques on peatland had been achieved in Britain with the development of special ploughs and the application of phosphatic manures. "Much that has been done in Great Britain could be copied here with advantage", reported J. A. K. Meldrum—one of the delegates and then Director of Forestry—in his valedictory address as outgoing President.

That the delegates were very impressed by the work of the Research Branch of the Forestry Commission is evident from their recorded remarks. "The Cost of the Research Branch works out at about 2% of the Commission's expenditure and no outlay has produced more abundantly... No doctrine is so dangerous as that which says that forestry cannot afford research... An industry which has to do with factors of soil, climate and species which are as yet dimly perceived cannot afford to do without research."

Foreign influences were also beginning to affect forestry thinking here in 1948. This is revealed by the President's comments on his visit to the Commonwealth Forestry Conference. He was impressed by the South African delegate, Ian Craib, who had startled the Conference by describing how his country had, as a result of his researches in spacing and thinning, brought in a new and revolutionary method of raising Conifer Crops—"This," said the President, "seems to herald the advent of the mathematician into the realm of the silviculturist!"

It was noted, that imports of softwoods were (in 1948) being received in fair quantities, though not on the scale of pre-war years. "These imports," said the President in his review, "are most welcome as they relieve the strain on our sorely tried woods. It is a matter of satisfaction to see that our native softwoods which were being consumed at the rate of more than 250,000 cubic feet (sawn measure?) per month, are now being used at not more than 25,000 to 40,000 cubic feet per month."

The change in Government, mentioned in the 1948 review, was making itself felt in 1949. The President opened his address to the 7th Annual General Meeting, as follows: "Ladies and Gentlemen, the most remarkable development in Forestry circles during the year was the sensational announcement by the Minister for Lands that the annual planting programme was to be stepped up to a minimum of 25,000 acres."

The most outstanding event of 1949 was the Society's excursion to Wales. "There," said the President, Mr. M. O'Beirne, in his valedictory address to the 8th, and so far most successful, Annual General
Irish Forestry

Meeting, "the caterpillar tractors ploughing the hillsides and swamps, rendering waste ground fit for planting made a profound impression on our members. I hope that before the end of the year, we will have the pleasure of seeing our Forestry Division imitating this method."

The Director of Forestry, Mr. J. A. K. Meldrum, during the course of an address to the 1949 Meeting, announced the expansion of planting to reach a target of 25,000 acres per year by 1952. He did not expect a miracle but was confident that the target would be reached. Mr. Meldrum stressed the need for extending the scope of education in the National University and at the State Forestry School.

The year 1950 was reviewed by Mr. T. McEvoy, in his Presidential Address on the occasion of the Ninth Annual General Meeting. He told of sharply rising prices for imported forest products, especially pulp and paper occasioned by the outbreak of the Korean War.

A survey of plantable land in the country which had just been completed revealed some 1,200,000 acres of marginal and sub-marginal land capable of growing timber crops. Adding to this figure, an estimated 60,000 acres of stocked woodland in private hands and some 170,000 acres of productive State forest lands, the review concludes that in 1950 "the total potential forest area is close on a million and a half acres."

In 1950, 8,000 acres were planted by the Forestry Division, the Bowater Corporation commenced the production of hard-board from Irish timber in their factory at Athy, Co. Kildare, and the Society held a most successful study tour in Co. Wicklow. Over eighty home members and a party of Welsh Foresters combined to make this, the 7th Annual Study Tour, an outstanding event.

The big forestry event of 1951 was the publication of the eagerly awaited Report of the F.A.O. Forestry Mission to Ireland which appeared on the 15th February of that year.

A lengthy summary of this report (later known as the Cameron Report after its author, Mr. D. Roy Cameron), appeared in Vol. VIII No. 2 of Irish Forestry, issued December 1951.

This blue-print for Irish Forestry commissioned by the Government recommended among other things—

(a) A commercial programme of 500,000 acres to supply an estimated need of 100,000 standards of saw timber. Planting to proceed at 11,750 acres per annum.

(b) A social programme for soil conservation, stabilisation of employment in congested areas and the reclamation of idle lands. The report goes on to say—"It seems safe to assume that there are at least 500,000 acres which in the national interest require to be afforested as part of the Social Programme."

The year 1951 saw the planting figure pass 10,000 acres for the
first time since State forestry began and also saw imported timber and pulp prices reach an all-time high. The Society toured Argyll in Scotland—a memorable visit.

In 1952 Dr. D. Roy Cameron came all the way from Rome to address the Society on the work of the F.A.O. Forestry Division. In the course of his address he referred to his report on Irish Forestry and dealt with criticisms that had appeared in the press and elsewhere. He stressed that the programme laid down in his report was the policy of the Irish Government of the day and not one that F.A.O. had wished on it. The request to F.A.O. was to review the programme. He concluded—"You in Ireland have it in your power to lay the foundations for a progressively increasing economic prosperity for this historic land. May you and those who follow you in the Society of Irish Foresters be worthy of your opportunity and of your destiny."

At the Eleventh Annual General Meeting of the Society, the retiring President, Mr. J. A. K. Meldrum, announced that State Afforestation was making spectacular progress, largely due to the innovation of mechanical preparation of land. During the season 1951-52 no less than 15,000 acres of new plantation were established. "Unless the problem of land acquisition is solved," said the President, "the ultimate establishment of 1,000,000 acres of forest cannot be translated from dreamland into reality."

The Society was also told of the devastation caused in Scotland by the "big wind" of January 31st, 1953, when over 40 million cubic feet of timber was blown. This was almost by way of advance notice of similar visitations here at home in later years.

At the International Peat Symposium held in Dublin in July 1954, papers on aspects of peat afforestation were read by experts from many countries. Mr. T. McEvoy dealt with progress of peat afforestation in the Forestry Division at home. In his most interesting contribution, which was published in Vol. XI No. 2 Irish Forestry, we read that in 1951 "when machinery became freely available, the Irish Forest Service purchased twenty-two tractor-and-plough units." In July 1954, Mr. McEvoy reported at the Symposium—"Ploughing is now accepted practice on peat soils," and "the use of phosphatic fertilizers has been adopted on poor sites and preliminary results are promising."

Mr. McEvoy's article mentions a figure of £20 as the all-in cost of establishing plantations on bogland in 1954, including fencing, draining, ploughing, plants, planting and fertilizing. An experiment using the newly developed planting technique was described in some detail and deserves recalling:—

"Drains opened with single mould board draining plough. Ploughed 20" deep with double mould-board planting plough—furrows opened at 10' espacement—ribbons at 5'. Planted with

\[1 + 1 \text{ } Pinus contorta, \text{ Lulu Island origin, at 4 ft. } \times \text{ 5 ft. with semicircular spades.} \]

Five acres were treated with 2 oz. basic slag..."
applied around each plant on surface of ribbon shortly after planting."

In his address to the 13th Annual General Meeting held in March 1955, the President, Mr. T. McEvoy, mentioned a developing export trade in Irish hardboard as significant since "surpluses beyond home requirements of low grade and small sized thinnings may become available and an export market for those in processed form may be very desirable." He forecasted that "the future will undoubtedly bring difficulties in equation of supply and industrial capacity."

The President stated also that in the season 1954-55 the State expected to plant 13,500 acres and that the estimates for forestry provided for a record outlay of £1½ million.

At this meeting members were privileged to hear an address by the famous forest economist, Mr. W. E. Hiley, on the economics of "thinning". Mr. Hiley's visit to the country did much to arouse interest in the economics of tree growing.

The year 1956 brought a new Forestry Act to facilitate land acquisition for forestry in cases where transfer was hindered by faulty title or where the sale of Commonages was held up by one or two un-co-operative individuals. It also saw state planting rise again to over 15,000 acres. Expenditure at £1½ million—income at £200,000 and employment at 5,000 were all new records.

That year the Society organised a study tour to Southern Germany. This tour, ably led by the President, Mr. O. V. Mooney, was the most ambitious and the most memorable to date. It set up standards in punctuality, good discipline, oratory and good relationships among hosts and guests. The tour is still spoken of by foresters in Germany, as one that left a lasting good impression of Irish people in general and Irish foresters in particular.

At the 15th Annual General Meeting of the Society held in March 1957, the President, Mr. Mooney, referred to the violent storms that occurred on Thursday, January 31st, 1957, and the following Monday, February 4th, 1957 which "must have equalled or exceeded the destructive effects of the famous big winds of 1903. Gusts of 84 m.p.h. were recorded at Dublin, 107 m.p.h. at Milan and 100 m.p.h. at Belmullet. ""This event will serve as a sharp and serious reminder," said the President.

Reviewing routine event in 1956, the President said that the total area then held by the Department was 320,998 acres—of which 269,442 was productive ground. It was expected that 20,000 acres would be acquired in 1957 compared with 17,358 in 1955/56; 17,513 in 1954/55 and 20,436 in 1953/54.

The total area planted to 31st March, 1956 was 208,481 acres and the planting programme for the year 1956/57 was 17,578 acres.

The Minister for Lands made a policy statement in the Dail on
A Review of Twenty-one Years of Irish Forestry

April 24th, 1957, which was recorded in "Irish Forestry" Vol. XIV No. 1. He reviewed progress to date and in particular discussed the influence of forestry on the national economy. "It is unfortunate, but inescapable," said the Minister, Mr. Erskine Childers, "that the employment given in new planting gives no immediate return in terms of increased national production. In this respect, it is questionable whether this small country, with limited capital resources, with problems of considerable excess of imports over exports and a plethora of other economic difficulties can really justify a steadily increasing annual capital investment in afforestation which is already close to £2 million a year. The capital being devoted to afforestation could, if wisely spent in other spheres of national economic development, produce almost immediate results in productivity gains. Devoted to afforestation, its immediate economic effect is purely inflationary. Our inherited paucity of woodland had led us, however, to undertake afforestation on a scale which is quite phenomenal in relation to our resources and our needs."

In 1957 we had the formal opening of the Forestry School at Shelton Abbey, and a meeting of the British Association for the Advancement of Science in Dublin. This latter was a big occasion for forestry in Ireland—with an outstanding exhibition and papers, discussions and tours of forestry interest. The Society helped in many ways to make this meeting a success and "Irish Forestry" published many of the forestry papers read at this historic gathering of scientists. The year 1958 heralded what promised to be a revival of private forestry. Mr. Erskine Childers, T.D., Minister for Lands, at Muintir na Tire Rural Week, Roscrea, August 1958, announced the Government's decision to increase the grant for private forestry from £10 to £20 per acre. The Minister asked the help of Muintir na Tire in securing a massive increase in the level of private planting. He said "For the first time the Department of Lands is being charged with the duty of promoting private forestry as being of equal importance to state afforestation."

Mr. D. Mangan, as President, reviewed the year 1958. The main item of news on the home front was the introduction in April 1958 of the Incentive Bonus Scheme for Forestry Workers.

The review recorded progress in afforestation for 1957/58 when 20,056 acres were planted and a total of 28 million trees used. Gross expenditure on Forestry had risen to £2,087,412 and income to £331,966—a nett expenditure of £1,755,446.

A notable event also for the Society was the visit of Dr. Axel S. Sabroe from Denmark who was guest speaker at the Annual General Meeting 1958. This visit was followed by a visit of the Society to Denmark in May 1959—which Dr. Sabroe helped to make the great success it was.

In 1959 Dr. M. L. Anderson paid a return visit to Ireland at the invitation of the Society. We were reminded at the Meeting, the 17th
Annual General Meeting of the Society, that Professor Anderson had exerted an abiding and distinctive influence on Irish forestry and that our greatest debt to him was due to his initiative in establishing the Society of Irish Foresters as a forum for the independent development of Irish forest thought.

In 1959, the Society broke new ground—in every sense of the word—when it organised a demonstration of forest machinery at Kilruddery, Bray. The field-day, which was organised by Mr. M. Sharkey, was a marked success. Mr. Childers, Minister for Lands, who opened the proceedings, spoke of the remarkable progress that had been made in the development of new and better types of machinery capable of dealing with a very wide range of forest operation and of the enormous contribution which the use of suitable machinery could make to more economic and more efficient forestry.

In 1959, the Senate of the National University appointed the author of this review, Thomas Clear, to the newly established Chair of Forestry in University College, Dublin. It will be recalled that Professor A. H. Henry was Professor of Forestry in University College, Dublin, and that the Chair lapsed at his death in 1930.

The year 1960 was reviewed by the President, Mr. Maurice Swan. The year was notable for the achievement of the State planting target of 25,000—a target figure that was at one time hoped for by 1952.

While 1960 was a quietly successful year for Irish forestry at home, Seattle on the western seaboard of the United States of America, housed the greatest assembly of foresters the world has ever seen, on the occasion of the Fifth World Forestry Congress. The doings of that Congress made headlines in the World press and the published proceedings, which have been secured by the Society, run to three large volumes.

It was my duty as President to review the year 1961—the review noted that in 1960-61, 150,000 acres of new land was planted in Europe—in Common Market countries—with overall afforestation increasing to a peak of 875,000 acres.

In Britain, 1960-61 was a record year for afforestation—with a total of over 100,000 acres planted. Ireland too had a record planting programme in 1961. 26,060 acres was planted at the 169 forests throughout the country. Gross expenditure had reached £234 millions and income £460,000. The volume of industrial wood extracted from State forests was 4.3 million hoppus feet. The year saw the official opening of the Scarriff Chip-Board Mills, which had been in production for some time and also the building of a new chip-board factory at Waterford was announced. The year was one of the worst on record for storms with widespread and, in places, frightening devastation of advanced pole plantations, particularly in the western half of the country.

Perhaps I should conclude this review by a general survey of the
changes that have come over the forestry scene in the last twenty-one years. The most remarkable feature of this period is the spectacular growth of State forestry, where the area under State forest has grown from some 135,000 acres to around 375,000 acres—an increase of a quarter of a million acres. In the period, gross State expenditure on forestry totalled around £25 million.

Nett annual expenditure on forestry has increased from £250,000 in 1943 to over £2.5 million in 1962/63. Income has increased from some £70,000 to around £700,000—a tenfold increase in both cases. Planting has increased from 4,000 acres in 1942/43 to 25,000 acres in 1962/63.

Private forestry on the other hand, which was bearing the major part of the burden of unprecedented wartime demands for home timber—amounting to 10 to 15 million cubic feet annually during the peak period—has suffered a total eclipse. Although planting rose from a wartime low of 300 acres to around 1,000 acres in 1962, it was apparent to all that this increase was not enough to arrest the rapid decline in woodland acreage in private hands and much of the new planting was in small patches on farms, unlike the earlier afforestation which was associated with the large wooded estates.

On the utilization side, while sawmilling of home-grown timber had declined from the highly artificial and forced wartime levels of around 8,000,000 cubic feet to less than half of that figure, there is evidence of a rapid build-up of interest in the conversion of home-grown timber in recent years. New, permanent, electrically driven band or gang mills of substantial size have been established in recent years and native saw timber is in keen demand in 1962-63. Here, too, the produce from State plantations now dominates the scene—with Sitka spruce bulking largely in the current saw log category. In 1942, private grown timber of Scot’s pine, larch, spruce and oak with small portable steam or oil driven saw mills, were the main features of the home trade. The big development in the pulp and board sector is something scarcely dreamt of in 1942. Now, four major plants are in operation, two chipboard mills, one hardboard and one integrated ground-wood mill—with a combined intake of some 4 million hoppus feet.

In the forest the period has seen great changes—most of all in the field of mechanisation. To-day over 70% of all ground is mechanically prepared—every production forest is buzzing with the noise of petrol-driven chain saws and giant bulldozers, graders and tracked tractors are commonplace on our hillsides cutting new roads at amazing speed and at less than 1942 prices per running yard. Extraction is now mainly by lorry—with 7 to 10 ton loads and the trailer and lorry combination with 15 to 20 ton loads is in increasing evidence. The planting spade, the crosscut, the axe, the horse and horse-drawn timber carriage, so much a feature of the 1942 scene, are now comparatively rare. Nurseries too have changed out of all knowing—with tractor-
driven ploughs, rotovators and seed sowers and chemical sprayers and dusters—all new to the scene.

The Society has served its members well during those years of rapid change and development. It has by means of lectures, field trips and study tours kept members up-to-date with developments. The Society has welcomed and introduced new ideas and new techniques. The elected officers have given splendid service to the advancement of forestry in general and the Society in particular. As to the future, I hope and pray and confidently expect that the next twenty-one years will be at least as fruitful for our Society and for Irish forestry as the period under review.

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The Soils of Ireland

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Soil Formation

SOIL formation is the process by which geological parent materials subjected to the action of natural forces and living organisms are transformed over time into soils. In the course of the transformation various chemical, physical and biological changes take place so that the end-product, the soil, is a completely different natural body from the parent material. The nature of the parent materials and the environmental conditions involved are largely responsible for the character of the resultant soil. Five major genetic factors namely, parent material, climate, relief, vegetation and time are usually associated with soil forming processes and man's influence in modifying these natural processes cannot be discounted. The interaction of these factors and the relative impact of each, determine the nature and intensity of the processes by which the inert parent material is developed into a dynamic soil and the character of that soil. A mature soil then possesses both inherited and acquired characteristics.

It may be accepted that the soils of Ireland are more variable than those of most other countries or regions of similar area. A number of factors have contributed to making the soil pattern so complex. The interaction of the major factors of soil formation discussed above are foremost in their influence in this respect. A relationship to the local geology is to be expected in our soils. This relationship is complicated, however, by the fact that most Irish soils have been derived, not from