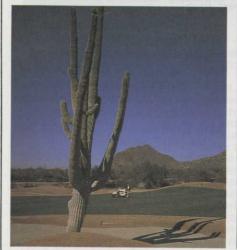
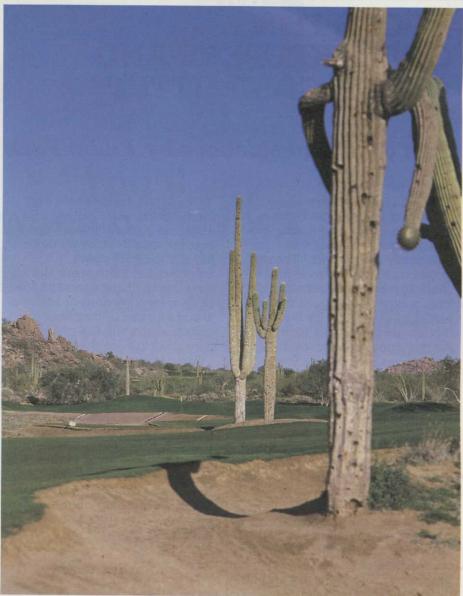


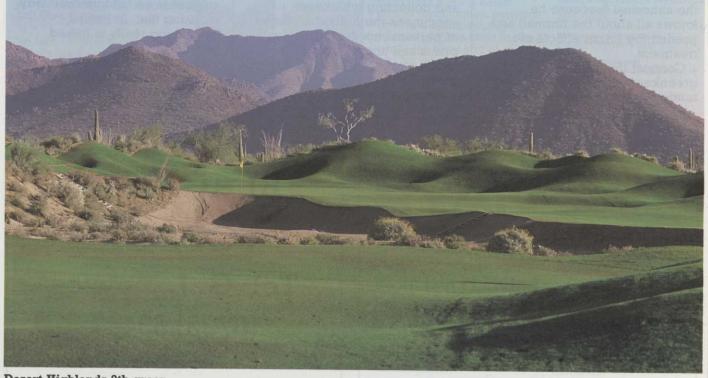
Howard Swan ventures off the beaten track.



Troon's 'two-tone' course.



Golf balls imbedded in cacti.



Desert Highlands 9th green.

BOOKS FOR GREENKEEPERS AND GREEN COMMITTEES

Part 3 - Basic Sciences by Eddie Park

'I WOULD like to draw attention to the fact that at most courses the green committee – and, in fact, the greenkeeper – is practically an amateur.' Those words were written over 35 years ago by Lord Brabazon of Tara, a man of stature in the golf world, as is evident by the fact that he gave his name to a famous open amateur event and also the main course at The Belfry.

Harsh words at the time, but to some people there is still a ring of truth in them. I have always found a fascination in the science behind the art of course maintenance – in, other words, the 'why' of it. But this does not seem to interest many greenkeepers.

In the medical world, the budding doctor is not allowed anywhere near a patient until he is proficient in anatomy, physiology, biochemistry and all the other basic medical sciences. The intention is that he will be better able to diagnose the abnormal (because he knows all about the normal) and predict the future effects of treatment.

Contrast this with greenkeeping, which has tended to be obsessed with the 'how' of it - the methods and techniques.

Recently, at excellent conferences held by all three of the old greenkeepers associations, there were signs of a welcome change in attitudes. Only when that core of science is widespread in course maintenance will the charge of 'amateur' be dropped for good.

Basic knowledge stems from what used to be called nature study – mainly observations of the plant and animal world. I recently came across a book called *The Naturalist In Britain* (1976) by D.E. Allen, which traces the growth of knowledge about the natural world, a fairly recent phenomenon with most of the work being done by amateurs over the last two centuries.

Earlier vears

In the earlier years, much of the work was simply identifying and collecting whichever specimens the individual found of personal interest – obviously, plants and animals, but also fossils, rocks, insects, butterflies, birds, etc.

An early book in my collection

is The Field Naturalist's Handbook (1893) by the Rev. J.G. Wood, typical of its era and showing the immense variety of these organisms already catalogued and grouped under habitats, but it took some time for the concept of communities and the reason for their existence to take shape.

Nevertheless, as early as 1785, a farmer called William Marshall was writing: 'Soils will ever find, in process of time, their proper produce,' perhaps the earliest evidence of an understanding of that most important subject for greenkeepers – plant ecology.

The word 'ecology' has many definitions, but the one I like best is: 'The study of the all-togetherness of everything.'

Sir Arthur Tansley, one of the founding fathers of the modern naturalist movement in this country, wrote *Our Heritage Of Wild Nature* (1946), which predicted most of our present troubles, e.g. the destruction of the countryside by agriculture, the inevitable economic disaster that would follow widespread high productivity in farming, the unpleasant effects of coniferisation and the need for education in nature for those who work in it.

In this latter connection, he pointed out the fact that education should concentrate more on 'things' rather than 'subjects.' What he meant by that is the need to look at any subject in an 'all-together' way, realising that, in nature, everything really is linked together.

I believe it is our failure in this respect that has led to the Continued on page 36...

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"You'll see alright. It may be surface water is still a problem. The turf could be looking thin and tired. Weeds could be on the increase.

"What you can't see so easily is the cause. Compaction. Or a build up of thatch. Probably both. Either way, the result's the same. Water doesn't soak in properly. The soil is starved of oxygen. Rooting gets shallow. Weeds and disease get a hold. You've got a problem and just spiking holes in the ground isn't going to solve it.

"Hollow tine aeration is the answer. What the Ryan people call Core Cultivation.

"In fact, I reckon that for most heavily used sports areas, Core Cultivation should be a routine part of any turf maintenance programme. Not just a problem solver. Obviously, how often you use hollow tining varies according to different soil conditions. I find once in the Spring and Autumn is about right.

Cores of soil and thatch



"So what's this core cultivation all about?

"First, hollow tining actually removes cores of soil—and thatch of course. That obviously relieves soil compaction far better than a spike or slitter. As a result, it opens up the soil giving better movement of air, water and fertilisers. If the soil is good, breaking up the cores, either by a scarifier or a Ryan core processor, separates the thatch, which can then be removed easily.

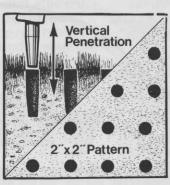


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"Look at the Greensaire for instance. There's the core pattern created by the tines. A close 2 inch by 2 inch up to 3 inches deep with a 24 inch swath. On a green of say 6000 square feet that's 3 cubic yards of core material. And you can do that in well under an hour.



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"Then there's the way the tines actually penetrate the soil. Ryan have a really clever désign which makes each tine go in and out absolutely vertically. Unlike other makes, where the tines sort of rock to and fro which can damage the surface.

"It's that sort of thing that makes Ryan aerators the best. In fact, you should have a look at the whole range of Ryan turf maintenance equipment. It's the best you can buy"

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Notebook

Cameron Forms Major Part Of Engineering Group Buy-Out

Cameron, the horticultural, sports turf and landscaping irrigation division of Wright Rain, plus the Macpenny fog and mist propagation business, has been involved, as part of Wright Rain, in the formation of a new British engineering group.

This is a result of the Birmid Qualcast Group decision to sell off three companies outside its main area of operation. Four directors involved have formed a consortium to buy these businesses.

Backed by Schroder Ventures and CIN Industrial Investments, the £2.6 million deal includes Wright Rain, plus BQ Precision Engineering in Leicester and BQ Industries with a manufacturing operation in Birmingham and its Sterling Scaffolding Division in South Shields and Edinburgh.

The newly formed group has a combined turnover of £14 million and employs just under 400.

For Wright Rain and Cameron, there will be no change of name or direction. The company is undertaking considerable investment at its Ringwood factory to increase production facilities for its range of pumping, irrigation and liquid waste handling equipment.

The company claims that the downturn in the UK agricultural market has been offset by its widening the range of products and markets, so that now less than

35 per cent of business is reliant upon UK agriculture.

These actions have included diversification through acquiring the Cameron horticultural, sports turf and landscaping irrigation business in 1983. Cameron now accounts for over 25 per cent of Wright Rain business.

The second area of develop-

ment has been in the range of liquid waste handling and pumping products for the industrial market through the company's Farrow Division, which concentrates on sales in more diverse markets, including mining, quarrying, local authority, manufacturing and processing activities.

Suffolk Set To Swing Some More

CDC Landscapes of Waldringfield, Woodbridge, Suffolk has almost 30 years of landscaping construction and alteration to golf courses behind it, as well as wide experience of turf culture and management of extensive amenity areas.

The company is also landscape maintenance contractor to our government in the UK and West Germany and has the largest stock of used and reconditioned modern equipment in the country, with all types of hydraulic and trailed grass mowing machinery available for sale or hire. Repair work is carried out on the premises.

In 1983, CDC Landscapes designed and constructed Heath Farm Golf Course at Waldringfield, a popular nine-hole layout offering a good test of golf. Planning consent has been granted to extend the course to 18 holes with an additional nine-hole practice layout.

The course is situated in an attractive part of Constable country

with river views enhancing the golfing scene and landscaping work on this flat expanse of agricultural land has produced beautifully sculptured greens, tees, mounds and bunkers.

Heath Farm Golf Club is now bulging at the seams with an ever-increasing number of visitors playing the course. To cope with the influx, the club plans to spend £184,000 enlarging the facilities.

At Priory Park, near Ipswich Airport, a holiday and leisure centre is being developed and the site includes a nine-hole course designed and constructed by CDC Landscapes.

Built in an ideal setting on a sheltered piece of land, the course slopes gently to the edge of the River Orwell. An automatic watering system has been installed and the course is due to open in the spring.

Ease and economy of maintenance has been the prime consideration in the design of both courses.

are you concerned with root development

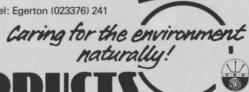
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Turf Treatment With A Dedicated Touch

Regular and thorough aeration throughout the year provides the key to the production and maintenance of first-class playing surfaces on Sunningdale's championship golf courses.

Indeed, aeration is the basic component of the complete turf management programme practised by Jack McMillan during his seven years at the club. The programme was developed specifically to suit the soil characteristics of Sunningdale's 400 acres.

The soil type, Bagshot Sand, is described by Jack as fairly impoverished and inert, comprising a sand/silt mix of little topsoil depth, which can, on occasions, behave like clay.

"By that I mean the soil compacts quite easily under foot or wheeled traffic. It will also bake in hot weather. Therefore, it is essential that the ground is aerated intensively all-year-round so that it retains its structure and remains free-draining."

Jack is a firm believer in maintaining an aerobic soil structure.

"On most courses that means carrying out thorough and regular aeration to combat the joint effects of the continuous passage of feet and machinery.

"At Sunningdale, everything we do goes hand in hand. If the soil compacts, it neither handles water well nor allows vigorous and healthy root growth. Rain or applied water will tend to run off, causing ponding, while in hot

weather, plant cover can be burnt off, leading to rapid turf wear and erosion."

Jack added it was, therefore, vital that the soil and its structure be kept in as good a condition as feasibly possible. He employs a Cushman Turf Truckster equipped with Huxley and Cushman slitting attachments to carry out an intensive winter aeration programme on the Old and New Courses at Sunningdale.

Commencing in October, the equipment is used exclusively each week to treat the greens, surrounds and tees. Snow or heavy frost is all that lays the machines off.

The Huxley slitter is fitted with 6in blades, while those on the Cushman version are 4in long. The two machines are then worked alternately so that aeration is carried out at a different depth each week.

This helps "open up" the soil structure more effectively, while reducing the risk of a hard, impermeable layer forming – a particular hazard when aeration is performed at a constant depth.

The greatest likely problem at Sunningdale, however, is compaction within the surface layers, so aeration of the top few inches of the turf at a weekly intensity is essential.

The Cushman Turf Truckster is used with a range of attachments from the Huxley and Cushman stables to handle hollow-coring, brushing, spraying, topdressing and the matting-in of materials, all carried out by the club's 13 groundstaff.

The Old Course, which opened

in 1903 and has bigger putting surfaces and bunkers, is looked after by a foreman with four staff. A foreman and three staff tend the New Course, which dates from the 1920s.

The remaining groundstaff comprise a central tractor squad and a full-time mechanic.

Sunningdale applies about 500 tonnes of topdressings a year, in seven or eight separate applications. The soil mix, consisting of 75 per cent sand and 25 per cent peaty-loam, is produced on site by the club's Royer processing equipment and is used on all 36 greens, approaches and tees. Dressings are only applied when there is a promise of plant growth or actual growth is occuring.

On the spraying side, Jack said that the predominantly acid soils of the two heathland courses did not encourage the establishment or growth of many broad-leaved weeds. "The sprayer is used primarily for fungicide treatments and for the monthly application of a cocktail comprising a wetting agent and sulphur of iron.

"The Huxley brush is in regular use during the spring and summer, removing dew from the greens, while the dragmat helps us spread the topdressings thoroughly across all surfaces. The brush is also used in ideal conditions to apply a finishing touch to the greens after matting," he said.

Jack, who entered the profession when 14, is looking forward to May when the world-famous Surrey club stages the Walker Cup.



Mounted at the rear of a Cushman Turf Truckster, a 66-gallon Huxley sprayer.



Cushman equipment slitting the Old Course 18th.



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"Our four greens have to satisfy 10,000 bowlers a year. We've independently compared proprietary slow release fertilizers and, for both our spring and summer nitrogen requirements, Greenmaster Super N proved the best." -Mr. George Smith, Head Greenkeeper, St George's Lawns Bowling Greens, Cliftonville, Margate.



"To maintain good greens under the constant hard wear our golf courses receive, we need fertilizers which work quickly and effectively. The Greenmaster range gives us the flexibility and reliable response we need." - Mr Ray Mower, Area Superintendent, London Borough of Hillingdon Leisure Services Department.



"Our busy course is played virtually every day and the members rightly expect greens that play well all year We've found that Greenmaster fertilizers keep the greens healthy, growing vigor-ously and resisting wear." - Mr Len Arbon, HeadGreenkeeper, WoodbridgeGolfClub.



"We're proud of the fine reputation our parks have gained. To maintain it we need accurate, reliable and safe fertilizers in the right formulations. The Greenmaster range meets all these needs and, comparing cost per treatment and quality, Greenmaster offers real value for money." - Mr Keith Scrimgeour, Horticultural Manager, Glasgow District Council Parks and Recreation Department.

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MCPA and Mecoprop give broad spectrum weed control and the nutrient ratio ensures balanced grass regrowth. Greenmaster Autumn 6:4:12 + 6% Fe For autumn-long moss control and good colour response without excessive growth. The potash provides improved sward resilience.

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blade gets damaged the roots are still

there, and with a little reseeding

and topdressing,

they can produce a sward once more.

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what a good idea it is to reinforce grass.



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'Grass Reinforcement' Suppliers also supply Notts approved seed and topdress.

Notebook

People, Places, Products



Weather-matic's 200 series.

Prime Watermen is the newly appointed distributor of the Weather-matic range of turf irrigation equipment in East Anglia and the south-east.

For further information on design, spares or installations, contact Sonja Taylor on 0502 78 481.

News from Weather-matic's Dallas, Texas headquarters is that the company's 200 series spray nozzles offer a choice of full circle 90°, 120°, 180°, 270° and sidestrip models, all with flow adjustment screws.

The 200 series precision-molded ABS plastic spray nozzles are designed exclusively for use with Weather-matic 32P, 35P, 36P, 37P pop-up sprinklers and 95P shrub bodies – 30 series pop-up heights range from $2\frac{1}{2}$ in to 12 in.

Weather-matic also offers the 300 series brass nozzles in a full range of coverage patterns, including strip sprays designed for use with the 30 series pop-up sprinklers.

Vitax has appointed a new distributor for its Key range of products in Devon and Cornwall. Contact: Monro Horticulture, Long Rock, Penzance, Cornwall TR20 8JH. Tel: 0736 710304.

Dorset-based Roffey Brothers (Tel: 0202 523752) will now extend its trading area to include Somerset and Vitax will shortly be announcing the appointment of further Key distributors in Avon and South Wales.

A new arrangement for the sale and distribution of the Scottish Agricultural Industries' Longlife range of turf foods has been made to ensure wider availability in England and Wales.

The range is now supplied through ICI Professional Products' distributor network. Within the new agreement, support for the range will continue to be given by Chipman, the existing distributor.

As before, ICI Professional Products handles SAI Longlife in Scotland. SAI can be contacted on 031-332 2481.

The Scotland and Northern Ireland zone of the IOG is to present its exhibition and seminar – Scotsturf '87 – at the Royal Highland Exhibition Centre, Ingliston, Edinburgh on Wednesday November 11.

Further information from William A. Elwood, Exhibition Secretary, 22 Roseburn Place, Edinburgh EH12 5NL.

The inaugural Huxleys two-day service course was voted a success by instructors and students.

The course, designed specifically for engineers from appointed Cushman dealers, attracted 19 representatives to the new 1,200sq ft fully-heated building, built by Huxleys at its New Alresford factory for training and visitor reception.

Training manager Terry Cooper said the primary aim of the service course was to improve diagnostic ability. First place went to Michael Edge of Leicester Horticultural Engineering with Roy Shoreland of Birds Grasscare second.

Monro Horticulture is the result of an amalgamation by Kenneth Wilson Horticulture and Fyffes-Monro Horticultural Sundries. Gordon Hunter is managing director of the company, which will provide a nationwide service from eight depots.

The name Monro has been established over a century – ever since George Monro first traded in London's Covent Garden in 1862.

"Our strengthened national commitment to the horticulture division means that we will be investing to improve the product range. We pride ourselves on meeting customers' needs on a local basis, so all contact should be with the Thorp Arch office as before," Mr Hunter said.

Monro Horticulture has its main office at Morwick Hall, York Road, Leeds LS15 4NB. Tel: 0532 738282.

May & Baker Environmental Products and Burts & Harvey have produced a new training 'package' for those using amenity pesticides.

A 14-minute video features TV journalist Howard Stableford, who examines statutory requirements and demonstrates 'do's and don'ts' of handling



Inaugural service course at Huxleys.