Silver Jubilee of the Continuous Cover Forestry Group
Dainis Dauksta on behalf of The Forestry Journal

2016 was the 25th anniversary of the formation of the Continuous Cover Forestry Group in 1991. The British term continuous cover forestry (CCF) seems to many foresters a rather dour description of romantic close-to-nature (CTN) methods which developed in reaction to modern even-aged monocultural forest plantations. European foresters have used terms such as Dauerwald, Ewigerwald, or Plenterwald, to describe close-to-nature or irregular forests. The late Talis Kalnars one of Britain’s better known CCF protagonists preferred the title ‘perpetual forest’, reflecting the English translation of Dauerwald. He used to liken CCF forests to bank deposit accounts from which you take only the annual interest in order to preserve the core financial asset. Arguably the sustainable annual increments from CCF forests are far more reliable than any contemporary banks. Today, CCFG is chaired by veteran FR researcher Bill Mason and administered by Mandy Clinch, who organised the celebratory event.

The CCFG celebration dinner was held at The Castle Hotel, Llandovery on the 29th September and the group listened to former chairman Philippe Morgan describing the stages of development of continuous cover forestry in Britain since 1991 using business management terms such as ‘trough of disillusionment’ and ‘slope of enlightenment’. These terms seem apposite with large scale clearfelling still the principal harvesting method in the UK and the general scepticism towards close-to-nature silviculture techniques amongst mainstream forest managers. Over a decade ago Welsh Government committed to transform 50% of its estate to CCF management but WG insiders have quietly suggested that they consider this target unattainable. Our forest industry faces a steep learning curve in order to move to the kind of diversified resilient productive forests needed to survive the challenges posed by advancing climate change and the train of pests and pathogens following in its path. Wales has massive potential to build a sustainable forest economy but we need to break through the mythologies and preconceptions held by both orthodox plantationists and the single issue environmentalists or NGOs at opposing poles. Indeed CCF has at its heart a philosophy which embraces a spectrum of forest management methods appropriate to local circumstances avoiding prescriptive methods. Phil Morgan has worked in France, Brunei, USA and across the UK through his company Sustainable Forest Management and in association with forestry cooperative SelectFor. He presently chairs ProSilva Europe, a federation of close-to-nature foresters and organisations.

Professor Jurij Diaci of Ljubljana University spoke about the development of the CTN forestry culture in Slovenia using simple clear principles similar to those which Talis Kalnars extolled: no strict rules, adapt silvicultural tools to the goals for individual forests or stands, maintain forest fertility through retention of biomass, carefully manage or constrain disturbance whilst accepting windblow events as opportunities e.g. to create reactive irregular shelterwoods.
Jurij described some of the climate change-driven challenges faced by Slovenian foresters. These changes are not gradual but rather occur in events such as the invasions of bark beetles and other pests and pathogens. Presently experiments with exotics are not permitted in Slovenia but Professor Diaci thought that the necessity to diversify tree species will force authorities to change this policy. The long term decline in conifers across many of the world’s forests will need to be addressed. Strategies for forest adaptation will need to be pragmatic in order to increase resilience of trees and stands to biotic and abiotic stresses. The term ‘freestyle silviculture’ has evolved to describe the use of a range of management practices, Jurij Diaci calls this being lazy in a clever way. Silviculture anyway changes reactively according to politics, geography, natural events and societal needs; thus Slovenia banned clearfelling in 1949 whilst in the same year Finland banned selective felling. Within a fog of contradictory factors CCF needs to find added value, whether in biodiversity, amenity, creating resilience or growing specialist premium sawlogs.

Interestingly, Jurij noted that Norway spruce can survive for 150 years in understoreys, an observation also made in connection with irregular forests in other central European countries. Small shaded trees looking like saplings may be many decades old, but on release can grow uninhibitedly. Such trees have the advantage of containing very low volumes of juvenile corewood and may grow very high grade timber. Jurij also noted that suppressed oaks can survive drought better because of their smaller vessels, an increasingly useful characteristic as climate change takes hold. This illustrates the need to observe the results of practice, intentional or otherwise; he called this ‘cognitivism’. Professor Diaci concluded by remarking that scientists and practitioners need to reconnect and learn to be more open because there are no universal approaches to silviculture. Or at least if there is one guiding universal principle then it is sustainability.

Some very interesting points arose outside the formal presentations. Gary Kerr of Forest Research attended the dinner; when asked whether CCF forestry using intimate species mixtures was appropriate for the UK he agreed that mosaic forests might be more acceptable, especially for contractors and processors. This concept has been discussed within FR for some years. Bill Mason described these ‘patchwork quilt’ forests at the 2010 Combating Climate Change conference in Llandrindod Wells. However at present the planting of almost any new forest type would be welcome in Wales as only just over 100 hectares was planted last year (and not the target of 2000 hectares). After a few drinks another forester spoke of the challenges facing new planting; especially the vetoing power of organisations such as RSPB who are now concerned about the rise in numbers pine martens, yes really. Single issue debates rule the day whilst foresters rue the fray.

On September 30th around 40 of us set out in minibuses to follow the River Towy towards the edge of the Cambrian Mountains along one of the most picturesque valleys in Mid Wales; a landscape enriched by dramatic intrusions of highly productive planted conifer forests. A glimpse at Google maps shows the potential for significant forest expansion in this sparsely populated part of Wales. On arrival at Bryn Arau Duon forest an introduction to its history was made by Andy Poore. He is one of the original founders of CCFG, a member of SelectFor and forestry consultant to the owners of Bryn Arau Duon, Ilchester Estates. The forest is managed day to day by Phil Morgan and Huw Denman (who could not attend). Purchased in 1998, it is an upland area of 702 hectares of mainly Sitka spruce with stunning views. This classic, productive EFG plantation of the type which is seen as a rational answer to societal needs by commercial foresters, is hated by ‘activists’ regardless of the fact that the UK is still the world’s third largest nett timber importer.
Management of Bryn Arau Duon is driven by hard financial objectives with the trustees of Ilchester Estates remaining agnostic about sylvicultural methodology as long as a steady tax-free income is generated and the property capital asset is maintained. So far all financial targets have been met. The core asset value is of course dependent on improving resilience in order to reduce financial risk, an interesting challenge in an area classified as windthrow hazard class 5. The orthodox reaction for upland spruce forests in this class would be a non-thin management regime followed by clearfell possibly also curtailing rotation cycles on stands deemed to be at high risk. Many UK foresters confidently state that continuous cover forest management is not suited to these sites. However, the present forest managers profess the ambition to create a lowland quality forest in the uplands. This principal objective is to be met through regular thinning, development of wind-firming strategies and introduction of a wider range of productive species. The managers have so far been able to restrict clearfell operations to 15% of the overall forest area (on the more peaty ground). By using this formerly orthodox even-aged EFG spruce plantation as the sheltered matrix into which other species might be embedded, transformation to a resilient irregular forest with high amenity and biodiversity values could be implemented. This follows the original intentions of some of the more creative older generation of foresters responsible for establishing pioneer upland conifer plantations. Work carried out so far by the present managers was recognised by the presentation in 2015 of the Royal Forestry Society Silver Award for Excellence in Forestry Silviculture. Judges noted the comprehensive record keeping, use of regular forest inventories, group under-planting of Douglas fir, western red cedar and Norway spruce and the conservation of red squirrel populations. Regular harvesting operations produce logs for local sawmills and an annual profit of around £6000 for the estate.

As the visiting group was conducted around Bryn Arau Duon Phil Morgan quoted some statistics about the forest. Tracks and roads totalling nearly 60 km amount to 87 metres per hectare. Local geology favours roadbuilding and several in situ quarries supply the shale needed. To date 89,347 tons of timber has been produced of which only 5% was clearfelled. During several stops Phil showed examples of typical practice in stands growing at up to Yield Class 16. We saw replanting on small coupes created by wind events creating irregular shelterwoods. Phil described the original poor tree conformation in some areas which has been ameliorated by removal of those trees in up to three thinnings since 2000 using variable density thinning (VDT) which was originally pioneered in Wales by the late Talis Kalnars. Use of VDT seems to have reduced the expected impacts of windthrow. Plenty of natural regeneration has appeared in thinned areas. Removal of poorer large trees will continue on a five yearly cycle, taking about 20% of Basal Area in each intervention and focussing on diseased or damaged trees and those with larger branches. Chris Jones of Natural Resources Wales pointed out how tree architecture had already improved; he also remarked on the appearance of a deep covering of mosses dotted with fungi. This demonstrates the increasing biodiversity catalysed by dappled light penetrating the more open forest canopy allowing faster decay and utilisation of the spruce leaf litter. Phil described the division of the forest into classified areas or ‘working circles’ where particular management regimes might be conducted. These range from conservation areas of particular species such as lodgepole pine for encouragement of red squirrels to continuous production zones with no constraints apart from trying to limit disturbances to below one hectare. Baseline data is generated across 168 sample points within four hectare plots, each marked by a permanent steel stake found by metal detector when surveys or inventories are undertaken. Andy Poore confirmed that a cost per hectare could be assigned to mensuration.
Some discussions centred on old chestnuts. The absurd prejudice against western hemlock was mentioned in the context of the need to find useful shade-loving species for future expansion of irregular forests. WH has long been rubbished by volume sawmillers because its bark is too stringy for their radial debarkers and by muesli-munchers because it is considered to be invasive. Actually WH makes an excellent, stable joinery timber which used to be sold at up to £600 per cubic metre. Smaller sawmillers can cut it no problem. Furthermore American researchers have debunked the British assumption that all WH suffers from bad fluting. So here is an opportunity for value adding to a potential product of CCF. Large diameter logs of any conifer species are also a supposed point of contention. Sawmillers say they don’t want ‘oversize’ logs and yet these may be converted into some of the highest grade softwoods by bespoke sawmillers. Furthermore, old large trees of good form are highly desirable as seed trees in irregular forests. The larger the diameter, the more stable, mature heartwood is available. Sawmillers need to get over it, get educated and get cutting.

Alan Hunt, Forestry and Timber Development Advisor for NRW attended the field trip. He is uniquely placed to influence events within Welsh Government, sitting on a cross-departmental group which oversees utilisation of homegrown timber for construction. Educated at Bangor University Alan is young enough to bring some fresh energy to a part of Welsh Government which has been informed by too many players bringing their own idiosyncratic agendas to the table. Hopefully he can move the silvicultural agenda forwards and help get the sector delivering the timber we need for sustainable construction. With Brexit and the weak pound, UK grown timber will become increasingly important. In summer 2016 the WWF published a report emphasising Britain’s precarious position as the planet’s third largest timber importer. The WWF has also warned that timber consumption across the world will increase dramatically as countries substitute wood for steel and concrete in order to reduce carbon emissions. With 47% of Britain’s carbon emissions coming from our construction sector, we need to get our forest sector sorted quickly. Wales is blessed with underutilised land to spare for afforestation but Welsh Government’s planting program has stalled. Some evidence-based thinking and plain speaking is desperately needed.

Irregular forestry can address many of the issues raised by the anti-conifer zealots who have dominated the thinking of English and Welsh governments in regard to silviculture. Recent research from Finland shows that CCF is economically viable.
British upland sites such as Bryn Arau Duon can be extremely productive whilst delivering biodiversity and protecting water quality. A few dedicated foresters have doggedly worked against the grain of orthodox opinion to demonstrate the value of reactive CCF in a changing climate. Around a third of the attendees of the CCFG field trip are Bangor Alumni. Wales has the land, the centres of expertise and has regularly been ahead of the curve in experimenting with innovative timber construction. Welsh Government needs to better understand the role of conifer forestry in modern society and implement its own forest strategies in earnest.

Russian forester G. F. Morosov said: *It is the creative task of a silviculturist to be able to transfer the natural laws of life of forests to the principles of forest management.* It is the creative task of the politician to implement the appropriate policies for the protection and well-being of societies. But when will Welsh Government start to effectively implement its own declared forest strategy?

Dainis Dauksta
Photographs courtesy of Dainis Dauksta

The group at Bryn Arau Duon