

# 'The Joys and the Riches O' Kathay'

## Augustine Henry and the Trees of China

E. Charles Nelson

### Introduction

Professor Augustine Henry is acknowledged as the 'father' of Irish commercial forestry, as the 'prophet of forestry in Ireland and the forests are to keep his memory green'<sup>1</sup>. His promotion of the planting of wind-tolerant, vigorous, northwestern American conifers has had obvious effects on the Irish landscape. When we are honest, the wisdom of this aspect of Augustine Henry's work must be questioned, because a dense, dismal monoculture of conifers is not always an ornament, no matter how profitable. Such criticism is, of course, one-sided and fails to take into account Henry's philosophical views about forests, woods and trees and fails also to acknowledge his work as a botanical explorer and collector, his roles as a dendrophile and teacher and his contributions and accomplishments as a scientist who recognised, for example, that hybrid vigour could be exploited to the betterment of planted forests.

In *Forests woods and trees in relation to hygiene*, Henry quoted Alexander von Humboldt: How foolish is man in destroying the mountain forests, as thereby he deprives himself of the wood and water at the same time.<sup>2</sup>

Henry saw forests, woods and trees not merely as economic resources to be exploited, but as vital, renewable resources to be cherished for the well-being of the entire human race, not just

in his own time but in times to come. Augustine Henry was a conservationist long before conservation became a fashionable pursuit. He held a broad view, and certainly did not view a forest or piece of natural woodland simply in terms of the amount of cash that could be earned per hectare, although as a professional arboriculturist he was not unaware of the economic value of well managed timber-lands.

Ninety years ago, Dr Henry gave an illustrated lecture on forests to the Royal Dublin Society. He expounded some of his views about the wild woods and planted forests that he had seen in France, Ireland and China. Echoing Humboldt, he began with these forthright statements:

Man, since he emerged from the purely hunting stage, has been at work destroying the natural forest. The primitive modes of this



*Augustine Henry had this camera with him in China,<sup>32</sup> and from his diaries of 1898 and 1899 we know he was a careful photographer. No single album of his Chinese photographs has survived and those used here are attributed to him in the absence of evidence to the contrary. (Camera by courtesy of Catherine Gorman; photograph by David Davison).*

destruction may still be observed in countries like China, . . . In our own country the destruction of the forests is well-nigh complete. Nearly every bog is the site of an ancient forest.

He added a melancholy opinion:

It appears to be an almost constant rule that, once forests are cut down by man, it is with great difficulty they are naturally reproduced.<sup>3</sup>

A few years later, when asked by Professor John Campbell, during the enquiry into Irish forestry held during November 1907, "Have you any views on the application of the principles of natural regeneration to Ireland?", Henry replied with this pointed question, "Where have you the woods to regenerate?"<sup>4</sup>

### **Augustine Henry:**

#### **Origins of a forest prophet**

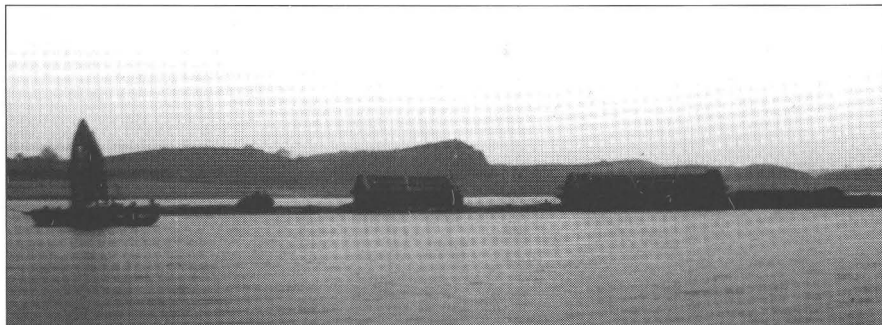
Who was this man who abhorred the destruction of wild woods, and who was to promote the cultivation of man-made forests? What has China got to do with his dendrological career? How did the 'joys and riches' – botanically speaking – of Kathay, the Celestial Empire, influence his attitudes to forests and trees? He was not a forester nor a woodsman by trade, so where did he gain so deep and thoughtful an appreciation of woodlands, trees and forests?

Augustine Henry was born in Dundee, Scotland, in 1857, the son of an Irish father and a Scottish mother.<sup>5</sup> He was brought up at Tyane, a townland on the banks of the River Bann, in County Londonderry, a few miles from the village of Portglenone.<sup>6</sup> That part of Ireland is not by any means a wooded land, although today there are conifer plantations nearby. Augustine went to school in Cookstown and when

he completed his schooling, gained a place at Queen's College, Galway, where he studied arts. In 1877, he graduated and then moved to Queen's College, Belfast, competing for a scholarship that enabled him to continue his studies but obliged him to spend a year in The London Hospital. Henry obtained his Master of Arts in 1878 and went to London for a year. He returned to Belfast, and while the available evidence suggests that he had little real ambition to pursue a career in medicine, Henry was recruited by Sir Robert Hart into the Imperial Maritime Customs Service where a vacancy existed for an assistant medical officer. Henry rapidly acquired a licentiate from the Royal College of Physicians in Edinburgh – to allow him to practice medicine, including surgery – and he sailed for China in 1881. Dr Henry spent most of the succeeding two decades in China, leaving that country for the last time on 31st December 1900, the last day of the last month of the nineteenth century.<sup>7</sup>

### **Henry in China**

In March 1882, Henry was transferred to his first lengthy posting at Yichang on the Ch'ang Ch'iang (Yangtze River), over 1,500 km inland. Henry's non-medical colleagues were involved in keeping inventories of exports and imports and gathered taxes on behalf of the Chinese authorities. His duties within the Imperial Maritime Customs Service were those of an assistant medical officer, so Augustine Henry was not in China as a forester, let alone as a botanist, nor even as an explorer. For two and a half years he led an indolent life whiling away time by playing whist, learning tennis, and venturing out on occasional hunting forays after pheasant, deer and wild antelope.



*Boats on the Ch'ang Ch'iang (Yangtze River); an original print of this is inscribed on the back – 'Timber raft'. Augustine Henry probably took this photograph himself.*

We know from Henry's diaries that he was not interested much in matters botanical, let alone dendrological, until 1884. That mid-summer he noted in his diary that he had ordered botanical books.<sup>8</sup> November 25 1884 was an epochal day – 'Crossed river – botanised about Shil-liu-lung'.

What brought about these two events, the purchasing of botanical books and the botanising? Yichang was a desolate place – Henry actually used that phrase in the one surviving letter from his first decade in China. He wrote to his long-time friend, Miss Evelyn Gleeson, on March 26 1885, thanking her for her 'intoxicating ... charming letter' and Christmas card, adding that

You can have no idea how exhilarating is the reading of such a letter to one like me – a lonely man in a desolate place... Life here is very monotonous. I am sorry to say there is not even a tiger. I have got various armaments, but I am a wretched shot, which is curious, as I play tennis (I learnt to do so here) very well and have not a crooked eye – & my hands are steady, but perhaps I am a "butter fingers".

Then Henry contradicts himself – or seemingly contradicts himself – by

relating that "The country is charming, but I cannot get much away. I am now studying botany a little..."<sup>9</sup> There is, in my interpretation of Henry's letter, no contradiction. By 'country' he meant, in a veritable Irish sense, the vast territory beyond the city and the city's minuscule European community, the wide-open spaces of the river and its gorges, the mountains and adjacent valleys. That countryside was 'charming' because by the spring of 1885 Henry had learned that the wild flora was enticing and interesting.

One week before he wrote to Evelyn Gleeson about the desolate city, Henry had sent his first letter and first botanical specimens to the Royal Botanic Gardens, Kew. The seeds were from the Chinese varnish tree, *Rhus verniciflua*.

A good number of medicines are grown about here and there seems to be a fair number of interesting plants; and as this part of China is not very well known to botanists (at any rate, as compared with the south and also the northern and maritime provinces) interesting specimens might be found.<sup>10</sup>

Thus, the open spaces, the extraordinary medicinal herbs unknown in European pharmacopoeia and his

innate, insatiable curiosity combined to lead Augustine Henry into botany.

### Henry as botanist

There are now few people alive who can accurately recall Professor Augustine Henry and none who knew him in China. A few decades ago, he was still remembered vividly as an ebullient person and in some circles, as an eccentric, even comical man. Henry was also a scholar with wide interests who very frequently was tempted off the beaten track into arcana; for example, he strove to identify the fabulous golden fleece of classical antiquity. He was an avid collector of marginalia and ephemera,<sup>11</sup> but he was also single-minded when pursuing some immediate problem. He was humorous yet obsessive about minutiae. This latter characteristic, recalled by the late Miss Elsie Miller<sup>12</sup> who had to photograph larch cone scales for him, is perhaps the most pertinent when we consider his diversion from a career in the mundane routine of general medicine into botany and dendrology.

Henry was especially curious about Chinese medicinal herbs and their names, both in Chinese and in scientific Latin, making the complexities of nomenclature and taxonomy the explicit reason for making contact with the Royal Botanic Gardens, Kew:

I was induced at the beginning of the year to commence to take an interest in Chinese botany, in the hope of being able to give proper equivalents to Chinese names of plants, as it is my intention to make a translation some day of the more interesting parts of the Chinese work on *Materia Medica* (the Pen Ts'ao)...<sup>13</sup>

While no manuscript that might represent Henry's translation of the

Pen Ts'ao is traceable among his papers, during the mid-1880s he made careful notes, in his own copies of the customs inventories, about Chinese medicinal herbs. His book, *Notes on economic botany of China*<sup>14</sup>, published one century ago, also includes many references to medicines and cures. He certainly did manage to identify and thereby to provide modern scientific names for numerous plants used in Chinese traditional medicines, and may well have tried the medicines too.

We have therefore followed Augustine Henry into botany – he entered out of curiosity and boredom. During the next fifteen years, as he continued routinely to work in the Imperial Customs Service, Henry collected plants and employed several native collectors to cover territory he was unable to investigate thoroughly. His personal collection and his collectors' gatherings were transported regularly to Kew for study and while we cannot compute accurate figures for the entire collection, it is generally accepted that during his time in Yichang, Henry brought to European attention at least one new plant family,<sup>15</sup> not fewer than 25 new genera and approximately 500 new species. In Taiwan (Formosa) he collected over 750 separate accessions and by his own accounts, his gatherings of sub-tropical south-western China were very extensive.

In all, Henry and his collectors were responsible for sending to Kew over 15,800 different specimens, representing perhaps 5,000 species

As for trees, Henry's first discoveries – or, more correctly, the specimens which he and his collectors collected – included a series of astonishing plants. As these were from temperate, central China, many from areas underlain by limestone, the plants have proved

amenable to cultivation in western Europe, including Ireland. However, it is important to stress that at the time he was collecting specimens for naming and was not directly concerned with the task of gathered seeds so that these plants could be grown in European gardens. To confine my examples to trees, Henry's first collections included *Acer henryi*, *Carpinus turczaninowii*, *Emmenopterys henryi*, *Eucommia ulmoides*, *Pinus armandii*, *Tilia henryana* and *Davidia involucrata*.<sup>16</sup>

*Davidia* was undoubtedly his most significant find – but he was not the first European collector to gather specimens. He did obtain fruits, and sent these to Kew where they were pickled. Henry recalled his impressions of this tree as he first encountered it – ‘a solitary tree... in a mountain wood in central China, south of the famous Yangtze Gorges...’ on May 17 1888: ‘one of the strangest sights I saw in China, riding up a river valley, was *Davidia* in full blow on the other side, waving its innumerable ghost handkerchiefs.’<sup>17</sup>

Why was the ghostly handkerchief tree so influential? In a letter to William Thistleton-Dyer at Kew, dated June 3 1897, replying to a request for seeds of the Chinese redbud (*Cercis racemosa*), Henry suggested that the authorities at Kew

ought to make a strong effort to get the consul [in Yichang] to send one of the coolies who accompanied me on my trip to the locality, & procure not only seeds of the *Cercis*, but also of *Davidia*... Why *Davidia* is worth any amount of money... *Davidia* is wonderful.<sup>18</sup>

Thus began the campaign by Augustine Henry to encourage Kew to send a collector to China. He succeeded. On September 28 1899 Ernest

Wilson reached Simao, ‘clasped the worthy doctor’s hand’ and thereafter obtained instructions from Dr Henry about the locality where the ghost handkerchief tree grew. *Davidia*, more than any other plant, was the prize that stimulated the extraordinary series of expeditions to central China and the valleys and mountains of Burma and Tibet which began in 1899 and which have continued ever since. The roll-call begins with Augustine Henry and proceeds with Ernest Wilson, George Forrest, Frank Kingdon Ward, Reginald Farrer, Joseph Rock and William Purdom. The Chinese also participated – Tse-Tsun Yu being the most memorable and important.

Ernest Wilson noted that Henry’s ‘hobby devoured him and fortuitously enmeshed me.’ John Besant wrote that

If [Henry] had done no more than make known the marvellous riches of China he would have achieved more than most men... Happily so many plants bear his name that while trees and shrubs are cultivated his memory remains in every garden and arboretum for long years to come.<sup>19</sup>

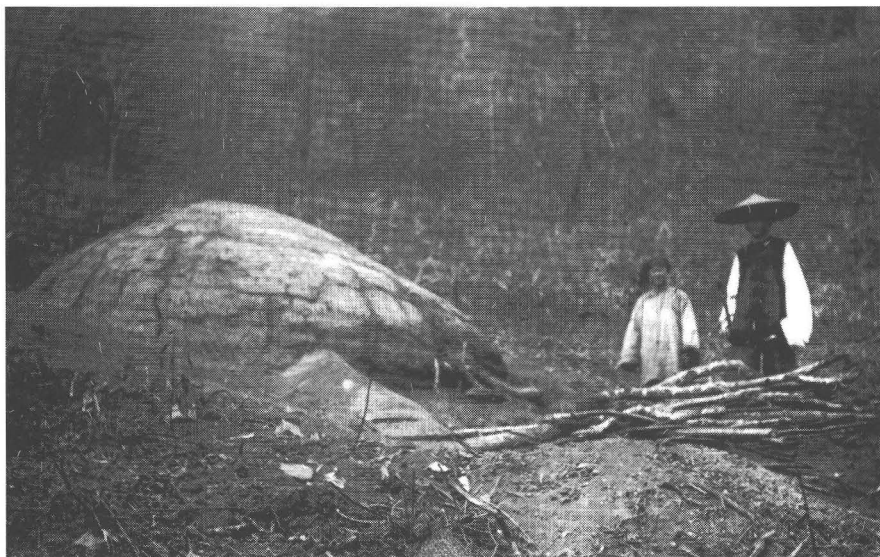
Thus the ‘joys and riches o’ Kathay’ were, in part, unearthed by Augustine Henry.

### Henry as forester

Few of Henry’s letters covering his first decade in China survive and so there is a lacuna about his thoughts about forests while he lived and worked about Yichang. In fact, by his own accounts, there was little natural forest in the hinterland of Yichang because trees and shrubs had been felled indiscriminately:

... firewood was ... sold to the river-boats & carried to the large cities down the river. The result of

*A charcoal oven in China – another way in which vast quantities of wood were exploited. Augustine Henry probably took this photograph himself.*



this collection of firewood which had gone on for centuries was that hardly any trees existed within five or ten miles of the great river. Forests were only to be met with in the interior mountains at three days journey.<sup>20</sup>

In 1889 Henry took leave and returned to Ireland where he married for the first time. Caroline accompanied her husband on his second tour of duty when Dr Henry returned to China as an 'ordinary' official in the Customs Service, not as a medical officer. Caroline Henry did not enjoy good health and died in Denver (Colorado) during September 1894. After his wife's death and a further period of leave in Europe, Henry ventured to China for the third time in 1895 and in May 1896 journeyed into the south-western provinces, to Mengsi. He had been promoted, and was Acting Chief Commissioner of Customs with the official status of a mandarin. The letters that Henry wrote during his third tour, when he lived in

some of the most remote parts of China, are the most revealing - at times very introspective - letters, indicating his 'conversion' into a dedicated plant-hunter (when time permitted) and a convinced dendrophile.

The wild forests of south-western China greatly impressed Dr Henry, but he was also depressed by the fate of some of these superb natural tracts of virgin woodland. Writing from Mengsi in January 1897 to Professor Charles Sargent at Harvard University, Henry began to enunciate the disquiet he had about the forests' survival.

I haven't been to any tremendous forest yet, though I was in one which must have been 15 miles long: but I had awful weather on that trip. My native has just come back from a forest situated between here and Laokay, which he described as full of immense trees and lots of big game:- bear, wild pig, red-



deer, musk-deer, and panthers. It is very curious to note how persistent the Chinese have been in deforesting their country. On the Red River in Tonking we saw much forest: but the moment we entered the Yunnan part of the River, only grass, hills and little shrubberies ...<sup>21</sup>

More telling is his diary, written while travelling in this region. On 14 February 1899 he set off at 11am from the custom house at Simao 'with chair & 4 chair coolies'. Towards the end of the arduous trip, on 26 February, Henry wrote (his phrases are often staccato):

Sing Ya appears in valley below ... it is a valley of 10 houses. This is really the proper place to turn off to Szemao [Simao], we hear afterwards. We now come on thro a Pine wood which is very beautiful. Most of the leaves here turned a golden yellow to the sun shines through the wood delightful. There are no trees so beautiful as Pines... The beauty of the Pine woods & seeming health of them ...<sup>22</sup>

And later that day:

Importance of early investigation of flora of China before all the forest is cut away. Also mineralogist to be sent to investigate the mines.

In this territory he also saw such plants as *Paulownia fortunei* – 'amongst trees ... the most beautiful I have ever seen ... which in Yunnan ravished the eye with its myriads of violet foxglove flowers ...'<sup>23</sup>

The richness of the forests made the greatest impact on Henry, not the quantity or quality of the timber. He was equally impressed by the *lack* of forest; on that same march of fourteen days during the spring of 1899 he trav-

elled into country that was

... dreadfully barren – totally deforested: and all this done by a few wretched settlers, as the population was scarcely 5 to a square mile. I really appeal to you and others to get up some expedition to western China, to explore botanically and to collect seeds, bulbs etc. The work of destruction of the forests is going on rapidly, as the Chinese are displacing the aborigines & wherever the Chinese go, forests disappear. In 50 years, many plants will be extinct I am sure. Such an expedition need not be costly as travelling in China is cheap. I could of course give advice and hints if such an expedition is thought of. The results to arboriculture & horticulture would be very great, as western China is the richest floral district in the world.<sup>24</sup>

These thoughts continued to exercise Augustine Henry throughout the time he lived at Mengsi and Simao, and in July 1899, he wrote this passionate paean for the forest in a letter to Evelyn Gleeson.

Yesterday I was in a forest near here. A band of Lolos were out hunting the big deer: and we saw many fresh tracks. At one time we were somewhat excited, as the jungle was much beaten down & the tracks seemed very large: we thought first it might have been an elephant, but careful examination showed it to be deer. It seems monstrous that the deer & elephants get no rest, as the hunters are always after them for their horns & ivory and before a hundred years I suppose they will be extinct. What a wretched earth it will be with only rats & smaller fry of sorts.

The birds here are untouched but I daresay their gay plumage will one day entail their destruction. The calm way in which man extirpates animals & ruins forests annoys me. Man is an uncanny brute; he wants the earth.

The necessity which will always exist for timber, will however necessitate in the future great forest reservations in all countries & these forests can thrive. So there is hope. A forest is the finest thing in the world: it is the expression of nature in the highest form: it is so full of beauty and of variety. Here every form of vegetation is to be met with. The tall trees, the small trees that grow in the shade, the

climbers that too weak themselves depend on the trees for support to reach the sky. In the gullies & ravines grow the tall ferns and graceful palms, with here & there great grasses twenty or more feet high. On the trees the orchids get a foot hold, & besides them the smaller & pretty ferns - the pretty herbs & other ferns also grow in the shade of the cliffs<sup>25</sup>

Yet not all forests pleased him: '... I don't care for Red River vegetation: it is tropical, often very gay, much magenta colouring - but there is not the chaste beauty of the temperate mountain vegetation.'<sup>26</sup>

As a botanist, Henry gained great pleasure from discovering the riches of

*Henry's personal guard in southern China - note the hills beyond are denuded of trees. Henry evidently took this photograph himself.*





the flora of China, but his joy was tempered by the vision he had of the forest's future. He lived and worked among the people, often in the most out-of-the-way towns where Europeans were not regular visitors – indeed where even the missionaries did not dare enter. In such regions, he was able to observe that the great Chinese forests were diverse, wild, uncultivated.

### Henry and Irish forestry

Those wild, sub-tropical Chinese forests were not a monotonous monoculture, planted and maintained by man. Ireland was unforested. That difference is crucial in understanding Henry's transformation from a dendrophile and botanist, into a promoter of planted forests. Perhaps there are some who cannot see any difference between those vocations, but I think there is. It is the difference that is encapsulated in the enigmatic phrase 'the wood and the tree' – 'one can't see the wood for the trees'.

Dr Henry's reputation as the 'father of commercial forestry' springs from the evidence he gave on 28 November 1907 to the Committee Enquiry, established by the Department of Agriculture and Technical Instruction for Ireland, that investigated Irish forestry.

Between his departure from China and that day, Henry had been feted as an intrepid explorer, and had undertaken to study forestry. He had persuaded the Irish authorities to secure him a place at the school of forestry in Nancy, France. By November 1907 he was Reader in Forestry at the University of Cambridge and at the same time, was working with Henry Elwes on their monumental *Trees of Great Britain and Ireland*, which is not just an authoritative, six volume text-

book but a most handsome tome. Henry gained through these endeavours an unrivalled knowledge of trees, as individual specimens, as species with all the variation and peculiarities that species can display in their various habitats and as the essential denizens of forests and woodlands in China, France, North America and these islands. He knew where the tallest specimens were growing. He was also to explain how rapidly such-and-such a species would grow when planted in western Scotland or Kent. There was no-one else with such a comprehensive knowledge of trees and arboriculture.

When he appeared before the Committee, Henry made several points of importance. 'No forestry ought to be attempted unless it will pay' and plots of less than 500 acres, in Henry's opinion, were not viable. When asked to comment on trees that will give the quickest return he responded: 'Yes, they will be the best, and, furthermore they will encourage further planting.' Henry also made the following, extraordinary statement:

Many people look upon forestry as a branch of aesthetics; they look upon the establishment of forests in the same way as they look upon the establishment of an art gallery, as being very beautiful. I agree with that to a certain extent, but forestry ought to be made to pay.<sup>27</sup>

Noting that the French and German governments saw forests as strategic reserves,<sup>28</sup> Henry added that 'we are not contemplating [a strategic reserve] in the afforestation of Ireland, what we contemplate is a commercial scheme.'<sup>29</sup>

Taking that stance, Henry then dismissed native and widely naturalized

(beech, sycamore, for example) tree species as of no commercial use and urged that Irish foresters should consider foreign species – but not all foreign trees:

Many exotic trees are useless. The useful ones have distinctive definite requirements as to soil and climate. We are now in a position to separate the wheat from the chaff. ... some of these [exotic trees] grow so well that in them you have a collection of conifers that would enable you to cover the surface of Ireland with trees if you like.

Henry was carefully selective. He reiterated that he was not recommending all non-native trees and offered his own carefully considered and ultimately influential, judgement.

The fact that a species is exotic or foreign has nothing to do with the question as to whether it should be planted. . . I [have gathered] facts as to exotic trees in Ireland [and after that] I formed my theory, and my theory is this, that owing to the insular position, extreme mildness and rainy nature of the winter, the Gulf Stream, and the excessive rainfall, the climate of Ireland differs in every respect from the climate of Europe and of the greater part of France. Where we have an analogous climate the same species do very well. . . . In British Columbia, Washington, Oregon, and California, the forests are the greatest forests in the world in many respects, and . . . all the trees without exception that grow on the Pacific Coast have done extremely well in Ireland. . . The non-trial of the fast-growing trees on a large scale is simply due to the innate conservatism of these

islands, backed up by imperfect knowledge of the remarkable and peculiar features of the climate of Ireland.<sup>30</sup>

Thus is revealed Augustine Henry as the father of Irish commercial forestry – the metamorphosis was complete. But that is not the end of the matter, for the assistant medical officer of the Imperial Maritime Customs Services, the lad from Tyane, was to take one more step and to become the foundation professor of forestry in the Royal College of Science, otherwise University College, Dublin. Professor Augustine Henry was the first person to hold a chair in forestry in an Irish university.

### Conclusion

I set some questions at the beginning of this lecture – who was this man who abhorred the destruction of woodlands and who was to promote the cultivation of man-made forests?

Augustine Henry was a man of great learning, little of it learned in the classroom. He admitted that he had seen most of the northern temperate hemisphere and had learned thereabouts that woodlands and forests were valuable for the well-being of mankind. His recommendations to the Committee on Irish Forestry were very precise, being concerned only with commercial planting – he was not dismissing the innate value of natural woodlands, nor the great diversity that could be enjoyed in arboreta containing hundreds of exotic species. He was proffering the explicit advice that was required by that particular committee. Had he been giving advice to a committee on the establishment of nature reserves, I think we would have heard him arguing, with equal authority and vigour, that they are essential for the well-being of mankind and that



*Like so many of the surviving photographs (mostly preserved as lantern slides) among Dr Henry's papers, this is not captioned, but it shows the bole of a tree, with prayers on wooden plaques. The well-developed aerial roots are also seen clearly.*

remnants of natural forest deserve to be preserved and managed for the enjoyment of everyone. Like an art gallery, a wild wood is beautiful.

The Celestial Empire, joyful, rich, fabled Kathay, taught an Irishman to love trees, to see the wood *and* the trees.

I have just returned from a day in the forest. It was very lovely and enjoyable – but how can one depict its essence, the charm of the woods. There is something primevally congenial in the very breath of a forest and I ask for nothing but to enjoy it.<sup>31</sup>

E. Charles Nelson, National Botanic Gardens, Glasnevin, Dublin 9

#### Notes And References

1. S. Pim. 1965. *The wood and the trees. A biography of Augustine Henry*. London: Macmillan. The second, substantially revised edition (1984. Kilkenny: Boethius Press) contains new information about Henry, and is still in print (copies are available from the present author).
2. A. Henry. 1919. *Forests woods and trees in relation to hygiene*. London: Constable.
3. A. Henry. 1904. Forests wild and cultivated. Economic proceedings of the Royal Dublin Society 1 V II: 231- 247.
4. Report of the Departmental Commission on Irish forestry. Dublin: His Majesty's Stationery Office. Pp 164- 168.
5. Pim (1984: especially p. 23, fn 1). see also E. C. Nelson. 1982. Augustine Henry and the exploration of the Chinese flora. *Arnoldia* 43: 21-28.  
E. C. Nelson. 1986. Introduction, in A. Henry, Notes on economic botany of China (facsimile issue introduced by E. C. Nelson). Kilkenny: Boethius Press. (see note 14 below).
6. Much of the biographical material in this essay is derived from Sheila Pim's unequalled biography of Augustine Henry, especially the second edition (1984: see note 1 above). I am grateful to Miss Pim for her help over many years, and applaud her continuing interest in the work of her 'anti-hero', Augustine Henry. More than anyone else she has championed Henry and enlightened us about his work and contribution to science and society.
7. B. Morley. 1979. Augustine Henry: his botanical activities in China. *Glasra* 3: 21-81.
8. Morley (1979: 41).
9. A. Henry to E. Gleeson, 26 March 1885 (original ms in National Library of Ireland, Dublin).
10. Morley (1979: 42-43).
11. This trait is demonstrated by the innumerable annotations, newspaper cuttings, letters and notes in Henry's own books, now in the National Botanic Gardens, Glasnevin. These include his notebooks with notes on, for example, the Golden Fleece.
12. Morley (1979: 24-25).
13. A. Henry to W. Thistleton-Dyer, 7 September 1885, quoted in Morley (1979: 46)
14. A. Henry. 1893. Notes on economic botany of China. Shanghai: [the author] (Printed by The Presbyterian Mission Press).  
This very rare booklet was

- issued to encourage missionaries to collect plants. Only 100 copies were printed, and until recently only one copy of the original Shanghai issue was known to be extant. Recently, however, the present author acquired a copy, inscribed and presented to the Japanese botanist Jinzô Matsumura by Augustine Henry; this is the second copy of the original issue known to survive. The booklet was republished in facsimile in 1903; a copy of this early facsimile is among the books in Augustine Henry's library, now in the National Botanic Gardens, Glasnevin. A second facsimile, with a modern introduction and index, was published in 1986 by Boethius Press, Kilkenny; this third issue is still in print (copies may be obtained from the present author).
15. The family generally credited to Henry is Trapellaceae, of which *Trapella* was the type genus. *Trapella* is now placed in Pedaliaceae. However, Henry also discovered *Eucommia*, a genus that is now placed by itself in its own family, Eucommiaceae.
  16. Details of some of Henry's botanical discoveries can be found in E. C. Nelson. 1984. The garden history of Augustine Henry's plants. Appendix 2 in Pim (1984), pp. 217-236. See also Pim (1966), Morley (1979), Nelson (1982).
  17. See Nelson (1982).
  18. See Nelson (1982).
  19. J. W. Besant. 1930. The late Professor Henry, V. M. H. *Gardeners' Chronicle* 87 (ser. 3): 274-275.
  20. Alice Henry ms notebook f. 29 (original ms in possession of Dr Barbara Philips, to whom I am also very grateful for her unstinting help and interest in my research on Dr Augustine Henry).
  21. A. Henry to C. Sargent, 13 January 1897 (original ms in The Library of The Arnold Arboretum, Jamaica Plain, Massachusetts).
  22. A. Henry, unpublished ms diary (National Botanic Gardens, Glasnevin).
  23. A. Henry. 1903. Some new trees and shrubs of western China. *Flora and sylva* 1: 217-218.
  24. A. Henry to C. Sargent, 1 April 1899 (original ms in The Library of The Arnold Arboretum, Jamaica Plain, Massachusetts).
  25. A. Henry to E. Gleeson, 31 July 1899 (original ms in National Library of Ireland, Dublin).
  26. A. Henry to E. Gleeson, 20 February 1897 (original ms in National Library of Ireland, Dublin).
  27. Report of the Departmental Commission on Irish forestry. [hereinafter RDCIF. Dublin: His Majesty's Stationery Office. Pp 164, para 4024.
  28. RDCIF: 166, para 4025. ('The forests of Germany are worth as they stand one thousand millions sterling....')
  29. RDCIF: 165, para 4025.
  30. RDCIF: 165, para 4029.
  31. A. Henry to E. Gleeson, 10 May 1898 (original ms. in National Library of Ireland, Dublin).
  32. D. Davison & E. C. Nelson. 1986. *Buxus camera* 'Augustine Henry' *Moorea* 5:11-16.