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# Wood and Forestry in German History: In Quest of an Environmental Approach

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## SUMMARY

Environmental history is mostly human history, but, at the same time, should be more than it; that ambiguity causes much theoretical confusion. The author discusses some conceptual problems of environmental history and their effect upon historiographical practice. In connection with that, he comments on several open questions of German forest history: the environmental significance of the many cries of alarm about ‘wood famine’; the idea of nature in the course of the history of forestry; the complicated relations between forestry ideas and practice, and the different paths of French and German forestry.

The term ‘conceptual pollution’ has been coined with regard to the present state of environmental history; there is, indeed, a plethora of contradictory concepts which have not been thoroughly discussed and thought over (Radkau, 1991). So I will first attempt to reduce this pollution a little; it is to be hoped that I do not increase it in the end. It is not easy to formulate a convincing concept of environmental history – that is to say, a realistic, not simply rhetorical, concept which serves as a useful basis for research, and at the same time one which endows environmental history with a kind of identity and allows a clear distinction from economic history.

Firstly, the quest for conceptual realism: for a long time it has been fashionable among environmentalists to criticise anthropocentric approaches to environmental matters. However, though it is easy to formulate such critiques on an abstract, philosophical level, it is very difficult to write environmental history in a manner which is *not* anthropocentric, simply because the historian depends on human sources which produce, nearly automatically, an anthropocentric view. Moreover, I am convinced that the whole environmental movement is anthropocentric through and through, and that ‘nature’ and ‘sound environment’ frequently mean ‘human health and happiness’.

As to the second point, the difficulty of distinguishing between environmental and economic history, we should consider the widespread approach to environmental history which starts from conflicts about resources. From the point of view of the present, these conflicts often appear to be struggles over the environment, but one has to be careful not to misinterpret these events with a modern environmentalist outlook, as they were often really a matter of mere economic conflict. We still need a concept of what environmental consciousness *is*, how we can identify it in the past, and what relation it bears to economic interests (Radkau, 1993: 94-96). We still need a realistic concept of the genesis of environmental consciousness: the present environmental movement tends to cultivate a too idealistic, too highly ethical picture of itself and its historical origins.

I would prefer to conceive of environmental consciousness not as a sublime attitude, but as a realistic sense of the long-term conditions for the good life – surely a sense mixed with selfish motives and with economic and power interests, and susceptible to ideologies. It makes no sense to oppose environmental consciousness too sharply to powerful human interests. A highly idealistic concept of environmental consciousness leads to a kind of history which happens merely on the level of ideas, not of real events, and one that probably also conceals the real motives of the current environmental movement, which frequently appears to be driven by concern about health and happiness. The great hygiene movement one hundred years ago shows in several respects a striking similarity to the modern environmental movement. Apart from the strong concern for health, environmental consciousness often reflects economic interests of a collective, long-term nature. Certainly, environmental history is not identical with economic history. Perhaps one could state, though, that an environmental way of thinking comes into existence when different group interests in the use of natural resources conflict with one another, leading to the danger of an imminent crisis, and when an evident demand for a broader social consensus arises with regard to the conservation and sustainable use of these resources.

Now I will apply these general reflections to the woodlands, because forest history exemplifies the whole problem of how to formulate a clear and realistic concept of environmental history and how to identify environmental consciousness in the past. Again one can ask, is it reasonable to propose the ideal of a non-anthropocentric forest history? I hesitate to give a detailed answer to this question, because the idea of forest historiography from the interior of the woods appears attractive; but, looking at the present state of research, I find it difficult to achieve, with detailed historiography, that attractive goal. The idea of a pure history of the woodland without human perspective runs the risk of remaining a merely rhetorical concept. Even worse, it might result in a kind of anti-human history which presents the whole of human history as an endless process of destruction, in which only the ages of the great wars and plagues, when the

population is shrinking, are relatively good times.

Indeed, it is usual to present all of human forest history until the 19th century as a monotonous succession of destruction stories (Muir, 1984: 61-62). George Bertrand, pleading for an ecological history of agrarian France, comments critically: 'The forest arouses the interest of the historian only to the extent that it is burdened with rights of exploitation... or is cut down.' And he calls it a paradox that the writing of Michel Devèze, for a long time the leading French forest historian, is devoid of any ecological dimension (Bertrand, 1975: 38). Indeed, forest history should not only be the history of deforestation, but the history of growth, too; and not only of growth intended and organised by forestry, but also of spontaneous, unintended growth. It can be said that the environmental historian should present nature not only as a passive object of human history, but as an active force too. In this regard, the quest for a non-anthropocentric view appears to be useful. But it is not a quest for a nature untouched by man, but for a nature which develops by steady interaction with human history.

How can we identify environmental consciousness in the history of forestry? This is a question not easily answered, and there may be more than a single answer. Of course, many struggles for the forest fought out by the German forest administration were not struggles over the environment; on the contrary, from an environmental viewpoint, the old peasant woodlands condemned so sharply by modern forestry had some ecological advantages over the high-value coniferous forests cultivated by commercially-oriented foresters. In the past, the conflict over the wood was first and foremost a struggle for social interests. This did not always mean economic interests: in several German regions, the conflict became fiercest and most embittered when hunting interests were involved. Considered historically, the question of the environmental effects on the woodlands of powerful hunting interests is important, but largely unanswered. Some historians think it is largely owing to princely big-game hunting during the early modern era that many woodlands were saved from deforestation. At least it was the deer-hunt which gave power and prestige to several forest administrations during the 17th and 18th centuries.

In Germany, some modern environmentalists briefly considered an alliance with hunting interests in order to establish a counterforce against the completely industrially-oriented management of the forests, but such an alliance has not been established in the long run. The damage done by game preserved in excessive numbers by many gamekeepers is well-known, and represents today, as in the time of princely hunting, a serious burden for many forests. And even today, as in the year 1800, there is sometimes a bitter hostility – though seldom fought out in public – among German foresters which divides the lovers of deer-hunting from the lovers of trees. From an environmental viewpoint, one could ask whether the value of woodlands is constituted only by trees or by animals as well. The question of how to define a good forest is not unanimously answered, neither by forest historians nor by environmentalists; in the context of environ-

mental history, the question has seldom been posed at all.

The history of hunting could be an appropriate theme for historians who like the irony of history and are attracted by unintended effects; I think the historian should pay special attention to the unintended effects which show nature as an active part of history. An especially pretty example is the German revolution of 1848: contemporary chroniclers paid attention only to the destruction done to the woods at a time when forest policy was often not actively enforced. However, when the peasants trespassed in the forests and shot all the game they could, they rendered possible the growth of beautiful broad-leaf mixed forests (Hasel, 1985: 14).

Returning to our starting point, one has to ask how to identify environmental thinking in the forestry of the past. With regard to the history of German forestry, above all we would focus on the principle of *Nachhaltigkeit*, sustainability. *Nachhaltigkeit* has become a magic word in German forestry; the long history of this principle is frequently presented as the proof that environmental consciousness is deeply rooted in German forestry. The establishment of the principle of *Nachhaltigkeit* is usually claimed as the great historical achievement of German forestry which spread from Germany all over the world. In recent times, the international environmental movement has nominated sustainable development as the basic principle for the entire economy; this principle of sustainable development can be found in many papers from the Rio Conference in 1992. Often one gets the impression that sustainability is a term with a clearly defined meaning; unfortunately, this impression is erroneous. To date, it has not been possible to reach a consensus on the exact definition of this concept.

For the forest historian, this difficulty is in no way surprising, as in forestry the ambiguity of *Nachhaltigkeit* has been recognised for a long time. In her dissertation, Wiebke Peters (Peters, 1984) enumerates no less than 18 different definitions of *Nachhaltigkeit*! The term can be understood in a merely quantitative, mathematical manner, indicating that the regeneration of a certain amount of wood has to be guaranteed by forest policy. Ecologists, however, utilise a more qualitative definition, so that *Nachhaltigkeit* means the regeneration of the quality of the soil and a certain prevalence of vegetation. But in the past, the principle of *Nachhaltigkeit* was sometimes used as a mere pretext by German foresters. For instance, in the German southwest during the early 19th century foresters used *Nachhaltigkeit* to justify intervention against the so-called *Femelwirtschaft* or *Plenterwirtschaft* of the peasants. This disputed use of the wood was a traditional method of cutting single trunks according to the demand of the peasants (Hasel, 1977: 91). From a modern environmentalist viewpoint this practice was frequently superior to the clearing forestry of the state.

In order to identify environmental consciousness, we must observe not only the words, but also their effective content and historical context. In Germany, during the late 18th and early 19th centuries, arguments which today seem to testify to environmental consciousness – like *Nachhaltigkeit*, providing for

future generations – have often been used to justify the leading role of the state in forest affairs in the face of growing liberalism and the call for purchase of the state forests. But historically it is not always certain that the state is the best advocate for the environment.

In pre-modern and modern German forest history, there have been several debates which raise environmental questions; one must be careful, however, to identify their truly environmental aspects. In the first place, one could refer to the innumerable discussions of the alleged developing wood shortage, the frequently deplored timber famine, the *Holzangel* or *Holznot*: a mass of complaints reaching back to the 16th century. The records of these debates are a wonderful source for the environmental historian. Indeed, they present plenty of remarks and reflections about the state of the forests.

However, as I have repeatedly stressed in earlier publications (Radkau, 1983; Radkau, 1986a; Radkau and Schäfer, 1987: 149-157), it is important to analyse the sources critically and to be aware of their context and their intentions when they speak of the imminent wood famine. Often one would be misled in concluding that an environmental crisis existed on the basis of these complaints about wood scarcity. We are sometimes confronted with the paradox that several countries which possessed immense woodlands were lamenting the prospect of wood famine more loudly than other countries which were relatively destitute of forests, because the former countries, compared to the latter, were unaccustomed to paying a high price for wood and using it economically, having traditional rights which allowed a wasteful use of wood. The complaints about wood shortage are a good example to demonstrate that the environmental historian has frequently to read between the lines of the sources.

Proceeding in this way, one may be led in many cases to the conclusion that the mass of complaints, the frequent cries of alarm over alleged imminent deforestation, instead of indicating an environmental crisis are on the contrary striking evidence for strong elements of environmental stability across the interactions between men and woodlands. Environmental consciousness requires first and foremost a vivid *perception* of environmental problems. Exactly this characterises the mass of complaints about deforestation and wood scarcity; at least in principle it was easy to make the connection between wood scarcity and degradation of the forests. Moreover, there was even a tendency to overstate the degree of degradation because the destruction of the forests was worst at the sides of roads and rivers where it lay before the eyes of travellers.

The German forest orders, the *Forstordnungen*, are usually lamenting that the preceding orders have been violated, and therefore one might be tempted to conclude that until the great reforestation movement of the 19th century forest history is a mere history of destruction, of *Raubwirtschaft*. Surely, there are many examples of ruthless exploitation; however, one should be cautious of overgeneralisation. The existence of a great wood shortage has often been asserted since Werner Sombart's *Moderner Kapitalismus*, but to this day, a

general crisis caused by deforestation has not really been substantiated in any German region.

As to the forest orders, it seems to be important to think not only in terms of administrative orders and their observance or non-observance, but also in terms of self-regulating systems. Rather than a fixed balance, one should conceive of a fluid equilibrium or *Fliessgleichgewicht*, which stabilises itself by dynamic processes and even by conflicts. Indeed, sometimes it is exactly the non-observance of forest orders which tends to stabilise the ecology of the woodlands – when, for instance, the peasants shoot game, drive pigs into the forest, refuse to collect the knags and knots and obstruct the afforestation of conifers, as they did in several German regions.

Heinrich Hansjakob, a popular writer of the Black Forest living in the 19th century, describes a type of *Forstfrevel* which was a ‘forest offence’ only according to the law of the 19th century, not according to tradition and local custom, and which did no real harm to the wood. He writes that the inventor of the term *Forstfrevel* must have been a hard-hearted man. The forester of the Teufelstein, whose life story Hansjakob tells us, became through his experience of life in the depths of the woodlands a forester of the old ‘gemütlich’ (good-natured) kind, who sang loudly when going through the forest so that the poor people stealing firewood could hear him approaching in time (Hansjakob, 1984: 55). Also Wilhelm Heinrich Riehl, who created a kind of social romanticism of the woodlands, points out that in popular feeling there was a clear distinction between traditional violations of forest property laws on the one hand and real destruction of the wood on the other (Riehl, 1894: 60-61); the first was an exigency of life, the second an irrational act of rebellion.

Another example of a historical debate which sometimes revealed ecological problems of the wood caused by industrial development was the *Rauchschaden* debate, the discussion of damage done by industrial smoke. Pioneering research on the *Rauchschaden* was done by Stöckhardt at the forest academy at Tharandt (Saxony) as early as the mid-19th century (Andersen and Brüggemeier, 1987: 64-71). But one should not forget that the basic concern in that debate was not environmental, but economic, resulting from financial losses in agriculture and forestry. Many protests did not aim at environmental improvement, but at financial compensation. In spite of these economic motives, however, this conflict revealed environmental problems. For juridical reasons it was necessary to establish precisely the chain of cause and effect; this requirement demanded more and more research which led into ecology.

Another example from the mid-19th century is the Swiss debate over the great inundations in several Alpine valleys which were presumed to be caused by deforestation in the mountains. As Christian Pfister and other Swiss historians have recently pointed out, the environmental historian should not too eagerly echo these complaints – as with the 18th-century complaints about deforestation – since it is neither proven nor even probable that the destruction of woods by

mountaineers was the real cause of the inundation catastrophes. These accusations should rather be put in the context of power relations: environmental complaints served as a means for the dominant Swiss lowlands to get control over the mountain forests. One is reminded of the condemnation of swidden cultivation in Finland and other regions; these complaints, too, should be seen in the context of the conflict over modern forest exploitation, not that of a struggle for the environment.

It is an important question whether one can proceed towards an ecological forest history by way of the history of *ideas*. Some of the most distinguished works on environmental history belong to the historiography of ideas; the problem of whether this method is appropriate to forest history therefore deserves attention. Writing the history of environmental ideas, one is especially attracted by the long and complex history of 'nature' concepts. Therefore, one could ask whether it would be a promising method to analyse the significance of the term 'nature' in the forestry literature of earlier times. I have sometimes tried this approach (Radkau, 1986b), but I got the impression that 'nature' did not play a significant role in the teachings of the founding fathers of German forestry, such as the triad of Hartig, Cotta and Hundeshagen; an exception is the professional critic Wilhelm Pfeil (Hasel, 1982). The absence of 'nature' is the more remarkable as 'nature' was a very popular term in Germany at that time. But generally the great reformers of forestry did not at all like the idea that the forest is a gift of nature; on the contrary, they wanted the forest to become an artificial work of forestry. It is true that the idea that the forester should imitate nature, and adapt forestry to nature, was not wholly absent, but at that time it was considered old-fashioned.

In the late 19th century, the appeal to 'nature' sometimes appears as a conservative strategy against liberal forestry. Later, the early Nazi years in particular presented a favorable atmosphere for the new slogan *naturgemässe Waldwirtschaft*, 'forestry according to nature' (Kremser, 1990: 798f). This concept had a characteristic doctrinaire tone, perhaps not only because of the Nazi influence. It seems to be a typical problem with the 'nature' concept, and not only in Germany (Badré, 1983: 221), that it is sometimes connected with a certain dogmatism, even though 'nature' itself is a very ambiguous term.

On the whole, it is not certain that an analysis of the concept of 'nature' in German forest literature is the right way to discover environmental consciousness in the history of forestry. Certainly, a type of this consciousness did already exist in the forestry of the past; however, to discover it, the historian has sometimes to read between the lines. In his voluminous forest history of Lower Saxony (Niedersachsen) Walter Kremser again and again points out that forestry is not based on an exclusively rational economic foundation, even if the forester tries to give exactly this impression (Kremser, 1990: 165, 721). In his opinion, even in modern times love of the wood is one of the leading motivations for forestry, and he asserts that even if a forester has the intention of consistently



following the principle of economic gain, he will not really succeed in achieving that and making his forest a real capitalist enterprise.

If that is true, then it is possible that the *practice* of forestry contains more environmental consciousness than forest *theory*. Particularly in times and regions where the forest policy is totally dominated by cost-benefit analysis, one may discover more environmental consciousness in forestry practice than in official statements. However, the opposite relationship between theory and practice is also to be found. Sometimes forest theory preferred the mixed wood, while forest practice preferred coniferous monocultures for financial reasons. In any case, the environmental historian should not content himself with the history of ideas, but should investigate as well the history of forest practice, which can be remarkably different, because it is guided more by practical experience than by theory. Frequently the history of forestry *science* in Germany has been too much confused with the history of the forests themselves, which is a different story and much less eloquent than the former.

In the early 19th century, Germany became the pioneer in reforestation policy, and during the following period some German forest academies, with Tharandt at the top, cast their influence all over the world. German forestry of that time was characterised by a preference for the high forest, the 'Hochwald', while in France at the same time, especially after the revolution of 1789, the conversion of high forests into coppices became widespread in order to provide firewood and charcoal for the iron forges.

What was the reason for this peculiar direction to German forestry, for this *deutschen Sonderweg*? Had it to do with environmental consciousness, or with a peculiar German romanticism? I wonder at how little that question has been considered as an important research problem. The main cause for this lack of research is the fact that modern forestry usually takes it for granted that the German high wood policy was simply reasonable, the triumph of science in forestry. To that way of thinking, the genesis of the German type of afforestation is not a real problem (Rubner, 1967: 89).

Jussi Raumolin explains the German path as growing out of a particular German need which distinguished the mid-European region from northern as well as from southern countries (Raumolin, 1990: 44): 'Because a surplus of timber prevailed in the northern parts of Europe there was no concern for forest devastation for a long time whereas in the warm southern parts the people did not feel cold.' Raumolin quotes von Berg, a well-known forestry teacher at Tharandt: 'Want has been the true mother of forestry science and our dear Germany its adoptive father.'

But this explanation of the German reforestation movement does not appear sufficient. A comparable situation of want existed in French regions, too; but in the French case, the wood famine caused the conversion of high forests into coppices, not the establishment of new high forests. The French method was a logical reaction to wood famine, because if the need for firewood is really urgent, coppices are the appropriate method of quickly solving the problem and

harvesting wood after a short time. It is doubtful whether in a situation of pressing firewood scarcity it is science which is most needed; rather it was the general high esteem for science in 19th-century Germany which favoured the founding of forestry science.

Louis Badré, the author of a *Histoire de la forêt française*, suggests another explanation. He presumes that the German school of forestry was able to foresee the timber demand of the future age of coal when firewood would no longer be needed, whereas in France the influence of the charcoal ironworks on forestry at that time was too strong (Badré, 1983: 141). Indeed, the forest academy of Tharandt was situated in Saxony which was at that time the most industrialised region of Germany. But until the mid-19th century, German industrial development was based mainly on wood and water, still more on human and animal power, but only to a small extent on pit-coal. I am not sure whether the German forestry teachers of the early 19th century really had this alleged prophetic capacity to foresee the age of coal in Germany. If pit-coal was the English way, it was not clear at that time that it would be the German way too. To be sure, the forestry teachers recognised the possibility of substituting pit-coal for firewood in some regions and in several types of usage; but before the mid-19th century, when mass mining of pit-coal started at the Ruhr, only a few observers believed that Germany possessed enough pit-coal to abandon firewood and charcoal entirely.

Georg Ludwig Hartig, the leading Prussian forestry teacher at the beginning of the 19th century, claimed by means of calculations that the high wood policy was the most efficient strategy not only for getting timber, but also for getting the maximum output of firewood (Rubner, 1967: 120). The German high wood forestry was an outcome of the 'wooden age', not of the coming age of industry. It was not the pit-coal which saved the German forests, as was later frequently asserted; on the contrary, the beginning of the great afforestation movement clearly predates the introduction of pit-coal on a large scale. The impetus to afforestation originated in a society based on wood.

Making the comparison with France, one is led to the conclusion that the firewood scarcity in Germany was not as catastrophic as many contemporaries asserted; otherwise, the victory of the high forest policy would hardly have been possible and a preference for coppices would have been necessary, as in France. Compared to western Europe, Germany was on the whole a country still rich in forests, despite the many cries of alarm about destruction of the woodlands. In the early 19th century, Friedrich List pleaded for a wooden railway substructure in Saxony, following the American pattern, which was characteristic of a country with abundant forests!

Now, what was the real motive for the German preference for high forests in the early 19th century? In the first place, one can recognise a kind of economic logic. The timber of high forests had the greatest commercial value, if there existed adjacent waterways appropriate for carrying the trunks over long distances. The timber trade with the Netherlands was by far the largest and most

famous lumber business of the 18th century, and the quality of timber which was demanded – the *Holländerstämme* – required high forest with extremely long cutting cycles. But one doubts that the leading German forestry teachers were primarily commercially-minded and oriented toward lumber export. Probably a different motive was also of some importance: only a policy of high forest with long cutting cycles was able to justify an independent and well-established forest administration and to defend it against the rising tide of liberalism, which originally was opposed to governmental forest administration. The same holds true in the case of the preference for large-scale units, which likewise was not always motivated by economics, but rather by administrative interests.

In the 18th century, foresters generally had a very bad public image; in the course of the 19th century, however, in spite of the liberal ‘Zeitgeist’, they became one of the highest-esteemed German professions and were regarded as defenders of nature, advocates of the common wealth and of the interest of future generations. The poet Friedrich Schiller, who at first considered the foresters mere hunters, developed high respect for their profession when he heard that Hartig made forest plans for more than 120 years ahead.

The high forest policy was the best way to establish the social prestige of the forest profession at a time when legitimisation was urgently needed. At this point, we meet the role of public opinion, public consensus, in the course of forest history, and we are confronted with a certain irrational element too – with the emotional preference for the high forest, the huge mighty trees.

One can learn from forest history that an afforestation policy must be backed by public opinion to become really successful; therefore it is important to analyze how public consensus on afforestation has been achieved in the past. While during the 18th century there was a growing predilection for converting forests into arable land, in the German society of the early 19th century a broad consensus emerged in favour of reafforestation. The details of this development have still to be investigated. We can recognise the results as early as the revolution of 1848. In this year, there occurred again, as during earlier upsurges, a great wave of violations of forest laws; but it is interesting to note that these acts were on the whole no longer supported by public opinion. By that time, conservation of the forests was no longer solely a matter for kings and princes, but also a concern of the rising *Bürgertum*, the new middle class. It was a remarkable change of public attitudes, a change already prepared for by the public alarm over deforestation during the late 18th century.

The Germans are often said to have a peculiar emotional and spiritual attitude *vis-à-vis* the woodlands, and they themselves like to believe this. The idea that German culture had grown out of the deep forests became popular during the 19th century, begun by romantic nationalists, especially Wilhelm Heinrich Riehl, and taken up later on by the historian Karl Lamprecht, the social scientist Werner Sombart, and even by a 20th-century historian of chemistry like Walter Greiling. Bismarck, the founder of the new German Reich, himself expressed the idea of the peculiar German affinity for big trees when he criticised his successor

Caprivi:

I cannot deny that my confidence in the character of my successor was shattered when I heard that he let be cut down the very old [*uralte*] trees in front of the residency of the Reich Chancellor. This cutting down does not reveal a Germanic, but rather a Slavic character. The Slavs and the Celts, who are more closely related to one another than to the Germans, are no friends of trees...; their towns and villages are standing treeless in the fields...

Today this remark sounds nationalistic and even racist; recently, though, Jussi Raumolin (Raumolin, 1990: 2) has pointed out that indeed the German-speaking countries were most important in the discussion of forest-based development, and he even assumes that love of the woodlands was a typical feature of the ancient Germanic people (Raumolin, 1990: 44).

What should we think of this opinion? From the evidence of the literary sources it appears rather doubtful to me. In German romantic nationalism it was fashionable to claim old Germanic continuities where in reality a phenomenon was modern; and indeed, the German spiritual attitude *vis-à-vis* the forest seems to be on the whole a recent phenomenon which does not reach back very far before the 19th century. In earlier times, I find a kind of spiritual, non-economic relation to wood and forest at least as much in French as in German sources (Pastoureau, 1990; Badré, 1983: 53). During the 18th century, important influences on German forestry came from France (Radkau, 1986b: 64). High respect for the oak is in no way confined to Germanic peoples, but is also to be found in French, Italian, and Spanish regions. Contrary to Bismarck's assertion, there is not only a Germanic, but also a Celtic tradition of veneration of certain trees.

On the other hand, a country like Denmark, even more Germanic than Germany itself, effected during the 17th and 18th centuries – according to a recent book by Thorkild Kjaergaard (Kjaergaard, 1991) – a real 'ecological revolution' which involved a nearly total destruction of the forests and led to a wholly agrarian economy. Again one may wonder at the multitude of open questions with regard to environmental history, because the genesis and social background of the German romantic attitude have never been seriously and successfully analysed – indeed, it is not easy to discover an origin deeply rooted in history and society! At first sight, the synchronicity between the genesis of wood romanticism and the genesis of the reforestation movement is striking and impressive. One easily gets the idea that there must be a close linkage. Probably there was indeed some connection; but one should not assume too close a connection, or even identity.

The problematic relationship between wood romanticism and forestry reform can be illustrated by the writings of Wilhelm Heinrich Riehl, who greatly influenced the German worship of nature and German nationalism. 'Nature' was one of Riehl's favorite themes. But the nature he loved was the wilderness, and when he praised the forest he meant the wild woodlands. He connected the

German forests with German freedom, whereas Karl Marx put the question ‘What is the difference between the history of *our* freedom and that of the freedom of the wild boar, if one can find it only within the forest?’ (Fischer, 1987: 23). But here and there Riehl also presents a kind of environmental and social philosophy when he asserts that good human society needs niches – that it needs free resources which are not totally controlled and not totally exploited in a systematic manner. He was even realistic when he stated (Riehl, 1894: 49): ‘The forest alone guarantees in a genuine medieval way a contribution to the living of the peasants which is untouched by the rush of rivalry [‘Hetzjagd der Konkurrenz’].’

Sometimes Riehl appears to be contradictory when he praises the old German freedom of the forests but condemns at the same time the freedom of forest use which occurred during recent revolutions; the contradiction is eliminated by his assumption that in olden times people used their freedom in accordance with the nature of the wood. Certainly, freedom of the forest is a very ambiguous concept. German romantics meant the freedom of fantasy, the freedom of love; Riehl sometimes mentions the freedom of childish play in the loneliness of the woodlands (Riehl, 1894: 54). On the other hand, the poor German peasants of the 19th century meant above all the freedom to collect firewood and litter for stabling cattle, which was an important issue throughout the 18th and 19th centuries – *Streunutzung* (litter-collecting), if done excessively, was very detrimental to the woodland soil.

Freedom of the forest, understood in this way, collided sharply with the aims of the afforestation movement. Likewise, the wild wood, Riehl’s ideal, was far from the ideals of reformed forestry! The romantic stream of German public opinion, which at least indirectly supported afforestation, did not nourish the same woodland ideals as did the forest reformers. The distance between forestry and romanticism can be studied in German romantic paintings (Makowski and Buderath, 1983: 126-127). It is true that the forests shown in some paintings by Caspar David Friedrich are clearly artificial forests; some romantics liked the ‘gothic’ impression given by uniform coniferous high wood. But Ludwig Richter painted a wild fairy-tale forest of exactly the type which foresters did not like.

During the 19th century, we find an increasing number of complaints about the monotony of the artificial conifer forests. In the course of time, several forestry teachers picked up on these complaints, and a partial consensus developed between the woodland ideals of the German public and the aims of the science of forestry. When German industry turned to pit-coal, there no longer existed – in contrast to some Scandinavian countries (Raumolin, 1990: 128-129) – a basis for a nationalist argument in favour of an industrially-oriented forestry; German nationalists could afford a romantic, non-industrial attitude towards the woodlands.

But the consensus between forestry and public opinion did not remain very effective over the course of time. In 20th-century forestry, theory was sometimes

more environmentally oriented than practice. The old ideal of the *Laubmischwald*, the broad-leaf mixed forest, has been frequently abandoned in practice, where a narrow-minded economic orientation has prevailed. German forestry has lost its high public and intellectual reputation and has got into a more and more isolated position. When the modern environmental movement sprang up, it had only a weak connection with forestry.

On the other hand, since the late 19th century the German economy and technology have moved away from concepts of forest-based development which had been characteristic of the late 'wooden age'. As the newly-discovered deposits of pit-coal became more and more the typical trump-card of German industry, one can observe a change of the whole mentality and technological style (Radkau, 1989:115-133). It was also the rise of the German engineering profession which led away from the use of timber. The characteristic German aim of complete technical perfection and stability was not best achieved by the use of wood – neither in machines nor in buildings. While the German spiritual attitude *vis-à-vis* the forests had originally, in the early 19th century, a real base in forestry and economics, at least to some degree, it became later on a mere ideology and a sort of symbolic behavior.

Today, some speakers of the Swiss *Impulsprogramm Holz* are dreaming of a 'great green alliance' between forestry, the timber industry, and the environmental movement. Certainly it is a fascinating goal, and a necessary one, too. However, the establishment of this alliance would be a difficult task, because a deep estrangement continues between forestry and wood-consuming industry on one hand and the environmental movement on the other. Frequently even those foresters who have the good will to think ecologically do not find a common basis with environmental fundamentalists who want to ban economic considerations from the woods, and for whom cutting a tree seems like an act of murder. If environmental history is able to produce any practical benefit, it could do so in the present circumstances by overcoming the estrangement between forestry and the environmental movement – that is to say, by criticising dogmatic tendencies on both sides and arguing against the trend of playing off ecology against economy.

What is good environmental policy cannot be deduced once and for all from an idea of nature, nor can it be totally prescribed by ecological science, but it must be defined again and again through public discussion and social consensus. Environmental problems of forestry are frequently rooted in social conflicts and in the lack of a broad consensus produced by public discussion; I agree with Karl Hasel (Hasel, 1989: 188) that we may learn this lesson from forest history.

## REFERENCES

- Andersen, A. and Brüggemeier, F.-J. 1987. Gase, Rauch und saurer Regen. In F.-J. Brüggemeier and Th. Rommelspacher (ed.), *Besiegte Natur. Geschichte der Umwelt*

- im 19. und 20. Jahrhundert*, pp.64-85. München: C.H. Beck.
- Badré, L. 1983. *Histoire de la forêt française*. Paris: Arthaud.
- Bertrand, G. 1975. Pour une histoire écologique de la France rurale. In G. Duby and A. Wallon (ed.), *Histoire de la France rurale, 1*, pp.35-113. Paris: Seuil.
- Fischer, H. 1987. Dichter-Wald – Zeitsprünge durch Sylvanien. In Akademie der Künste (ed.), *Waldungen: Die Deutschen und ihr Wald*, pp.13-25. Berlin: Nicolai.
- Hansjakob, H. 1984. *Waldleute* (orig. 1897). Haslach: Verlag der Stadt Haslach, 11th ed.
- Hasel, K. 1982. *Studien über Wilhelm Pfeil*. Hannover: M. & H. Schaper (Mitteilungen aus der Niedersächsischen Landesforstverwaltung Heft 36).
- Hasel, K. 1985. *Forstgeschichte. Ein Grundriss für Studium und Praxis*. Hamburg/Berlin: Paul Parey.
- Hasel, K. 1989. Aus Forstgeschichte lernen? In *Allgemeine Forst und Jagdzeitung* **160**(9/10): 183-189.
- Kjaergaard, Th. 1991. *Den danske Revolution 1500-1800. En økohistorisk tolkning*. København: Gyldendal.
- Kremser, W. 1990. *Niedersächsische Forstgeschichte. Eine integrierte Kulturgeschichte des nordwestdeutschen Forstwesens*. Rothenburg (Wümme): Selbstverlag des Heimatbundes.
- Makowski, H. and Buderath, B. 1983. *Die Natur dem Menschen untertan. Ökologie im Spiegel der Landschaftsmalerei*. München: Kindler.
- Muir, R. 1984. *Shell Guide to Reading the Landscape*. London: Michael Joseph.
- Pastoureau, M. 1990. La forêt médiévale, un univers symbolique. In A. Chastel (ed.), *Le château, la chasse, et la forêt*, pp.81-98. Bordeaux: Editions Sud-Ouest.
- Radkau, J. 1983. Holzverknappung und Krisenbewusstsein im 18. Jahrhundert. In *Geschichte und Gesellschaft* **9**: 513-543.
- Radkau, J. 1986a. Zur angeblichen Energiekrise des 18. Jahrhunderts: Revisionistische Betrachtungen über die 'Holznot'. In *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* **73**: 1-37.
- Radkau, J. 1986b. Warum wurde die Gefährdung der Natur durch den Menschen nicht rechtzeitig erkannt? Naturkult und Angst vor Holznot um 1800. In H. Lübke and E. Ströker (ed.), *Ökologische Probleme im kulturellen Wandel*, pp.47-78. Paderborn: Schöningh.
- Radkau, J. 1989. *Technik in Deutschland. Vom 18. Jahrhundert bis zur Gegenwart*. Frankfurt am Main: Suhrkamp.
- Radkau, J. 1991. Unausdiskutiertes in der Umweltgeschichte. In M. Hettling et. al. (ed.), *Was ist Gesellschaftsgeschichte? Positionen, Themen, Analysen. Hans-Ulrich Wehler zum 60. Geburtstag*, pp.44-57. München: C.H. Beck.
- Radkau, J. 1993. Was ist Umweltgeschichte? In *Umweltgeschichte heute: Neue Themen und Ansätze der Geschichtswissenschaft. Environmental History Newsletter, Special Issue No. 1*, 86-107.
- Radkau, J. and Schäfer, I. 1987. *Holz. Ein Naturstoff in der Technikgeschichte*. Reinbek: Rowohlt (Deutsches Museum, Kulturgeschichte der Naturwissenschaften und der Technik).
- Raumolin, J. 1990. *The Problem of Forest-Based Development as Illustrated by the Development Discussion, 1850-1918*. Helsinki: University of Helsinki (Research Reports 4).
- Riehl, W.H. 1894. *Land und Leute* (orig. 1854). Stuttgart.
- Rubner, H. 1967. *Forstgeschichte im Zeitalter der industriellen Revolution*. Berlin: Duncker & Humblot.