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**In Search of the Origins of Sustainable Forestry:
A Thirty Years' Controversy in Retrospect**

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(with references to my books "*Nature and Power*" = N & P, and "*Wood – A History*" = W)

Till the 1980ies, the old Werner Sombart thesis (W 25-27) that the "Wooden Age" ("hölzernes Zeitalter") was during the 18th century on the way of committing ecological suicide by continuous overexploitation of the forests had been the mainstream opinion in Germany and elsewhere. It was combined with the founding myths of modern industry as well of modern forestry: Economic historians explained that Europe was saved by coal, steel and the coak blast furnace; historians of forestry explained that Europe was saved by sustainable forestry, first invented in German regions. In 18th century England a song praised John Wilkinson, the inventor of the Shropshire coal furnaces: "That the wood of old England would fail, did appear / And tough iron was scarce because charcoal was dear. / By puddling and stamping he cured that evil, / So the Swedes and Russians may go to the devil." The Swedes and the Russians: the suppliers of wood. Again and again, you read in literature on forest history: Until the 18th century, the long bad time of deforestation caused by narrow-minded peasants; afterwards, the good new age of sustainable forestry carried out by scientifically trained forest administrations.

Therefore, when I questioned this construction of history (W 156-170) – at first, quite unsuspectingly, on the Essen international conference "*Energy in History*" in 1981 –, I was attacked both by economic and forestry historians. Opposition remained most persistent within forestry, and for a time I got the reputation as being the foresters' enemy (W 4 f.). The "wood want controversy" con-

tinued over decades till present time even when I turned to other regions of history; see f. i. Christoph Ernst: *Den Wald entwickeln*, Munich: Oldenbourg 2000, pp. 325-340: “Waldzustand und Holznotdebatte”; Bernd-Stefan Grewe: *Der versperrte Wald*, Köln: Böhlau 2004, pp. 26-33: “Kritik der Holznotdebatte” or the controversial contributions by Uwe Eduard Schmidt and Günter Bayerl to Albrecht Lehmann and Klaus Schriewer (eds.): *Der Wald – Ein deutscher Mythos?* Berlin: Dietrich Reimer Verlag 2000, pp. 117-156. Frank Uekoetter (*Umweltgeschichte im 19. und 20. Jahrhundert*, Munich: Oldenbourg 2007, p. 57) even states: „The conflict on reality and extent of the wood want crisis is since (my first articles) the central fighting arena of German forest history.” He sometimes complained that the best energy of forest historians is absorbed by the endless “Holz-notdebatte”!

My doubts arouse among 1980 – it was just the time of the shrill German alarm on the supposed “Waldsterben”! – out of a research project sponsored by the *Stiftung Volkswagenwerk* on “*Wood shortage and technological developments*” during early modern time till 19th century. This project turned out to be problematic as the wood shortage was not so impressive when we went deeply into the archives. At that time, my main points became the following ones:

(1) To be sure, there existed wood shortage, but in many cases it did not mean crisis: It happened within a world where the “limits to growth” were evident everywhere, and where it was by no means clear that wood was more scarce than diverse other resources. Sombart’s imminent great deforestation catastrophe did not really happen.

(2) Indeed in forest orders and other publications especially of the late 18th century we find many cries of alarm on the “imminent terrible wood famine” or so (but also mockery on this alarm!); but in most cases these sources should be read critically. At that time the construction of an imminent deforestation catastrophe was of use for powerful interests. And one should pay attention to the definition of “forest” and of “good forest”. The peasants’ coppices and pasture forests were no real forests in the eyes of the forest reformers about 1800 though they were of vital use for the peasants and moreover had a greater biodiversity than many modern forests.

(3) It is not easy to find out of archive sources what “sustainable” (“nachhaltig”), the new magic term since the late 18th century, really meant for everyday forestry practice. A kind of sustainable forestry planned with mathematic exactness could mean clearcutting, whereas the traditional coppices had a kind of inherent sustainability regenerating by themselves without planting and protecting the soil.

In England, Oliver Rackham advocated similar positions even in a more provoking manner than I, mocking that a lot of written forest history is “pseudo-history” (W 4), and that those historians who made the industrial wood consumption responsible for the destruction of the forest forgot not

only that trees grow again but also that the ironmasters were not in the mood of committing suicide (W 166). A similar criticism of traditional forest history in France is to be found in the great works of Andrée Corvol who wrote that the “cult of the high forest” had been the “state religion” of the Ancien Régime, but was in no way the only manner of forest conservation.

It was a great surprise for me to discover the works of by *Conrad Totman* (Yale) who offers a re-interpretation of the Japanese Edo era (the era of Japanese seclusion) from the view of forest history (W 295-306; also N & P 116 f.). He notes in his “*Green Archipelago*” (1989): “Germany is commonly viewed as the society that first developed the practices of regenerative forestry. This study shows that such practices arose independently in Japan as early as in Germany.” The Edo era traditionally contemplated as an era of stagnation appears now as a creative epoch! But who invented sustainable forestry in Japan? The question is even more exciting as the three typical Western driving forces of forest protection were absent in Japan: royal hunting, shipbuilding and wood rafting on a big scale.

It seems to me that this question remains somewhat open even in the works of Totman. Had the *bakufu*, the central administration of the Tokugawa shogunate, the merit of inventing sustainable forestry? But Totman remarks on p. 80: “The heart of the deforestation problem lay in authorized, not unauthorized, logging. The protective measures were being taken by the principal forest predators as a means of assuring their own access to forest yield ...” Or is the forestry discourse of Japanese writers the hero? But again Totman remarks (p. 97): “Rhetoric alone did even less to preserve timber stands than it did to stop erosion, because the rhetoricians were the chief lumber consumers.” Now, where do we find the true hero of sustainability?

It seems that we should regard the mountain villages, too, who often had their *buraku* similar to the village commons in Central and Western Europe. Elinor Ostrom, the first female winner of the Nobel Prize of economics, who – in opposition to Garrett Hardin’s famous “*tragedy of the commons*” – argued that local communes often managed woodland and other common resources better than the state or private landowners, took Japanese mountain villages as examples. Recent Japanese research on regions with farmer-managed woodland – so-called *satoyama* landscapes – reveals a symbiosis of village and forests (W 300). The secret of the Japanese turn to sustainable forestry seems to lie not so much in the central government, but even more within the regions and villages. Or were also the politics of the *bakufu* of primary importance? There remain open questions.

A reinterpretation of German forestry from Japanese experiences might be promising. Wilhelm Pfeil, one of the leading Prussian forest reformers in the early 19th century, emphasized that the merits of German forestry in contrast to French centralism were “solely the product of Germany’s division into various states” (N & P 229) lamented so much by German nationalists. “FRAGET

DIE BÄUME!”, “Ask the trees” was Pfeil’s device for forestry (ridiculed later on by the economic hardliner Max Robert Pressler: W 179); that meant: Forestry must be based upon observation of nature and local experience. There is not only a centralist, schematic tradition in German forestry, but also a critical discussion of French centralism according the tradition of Colbert’s “*Grande ordonnance forestière*” of 1669. The spirit of German romanticism, combines with the idea of the “organic” state, worked against the schematic order of the enlightenment.

James C. Scott (Seeing Like a State, p. 15) states: “The German forest became the archetype for imposing on disorderly nature the neatly arranged constructs of science.” To be sure, there are historical facts which support that thesis, and until to a certain degree it fits to my own results: “Sustainable forestry” could mean in practice: schematic forestry. Georg Ludwig Hartig, who was appointed head of the Prussian forestry department in 1811, became famous (or ill-famed) by his “general regulations” (“Generalregeln”) which several officials followed with doctrinaire rigidity and gave a “Prussian” military boost to the afforestation movement (W 150).

A generalization of the Scott thesis, however, appears questionable to me. The “Generalregeln” were not Hartig’s only message. Hartig admits in his memoirs that he learned much by experienced lumberjacks who knew their forest much better than foresters straight out of college (W 196 f.). He tells how he learned his practice of “thinning” (“Durchforsten”) from his woodcutters who were outraged when he ordered the clear-cutting of a 30- to 40-year-old-beechwood, as they thought it a sin and a scandal “that such a young beechwood should be butchered almost before it could stand on its feet”. Even for the lumberjacks the trees were living animals with a right to grow up!

The third of the Big Three of German forest reform after Hartig and Pfeil was Heinrich Cotta, called “Father Cotta” in Saxony. He, too, was no rigid doctrinaire nor was he a protagonist of coniferous monocultures; but under the impact of the famine of 1816 and 1817 he advocated reopening the forest for agriculture and moving to a combined agroforestry (“Baumfeldwirtschaft”). Even more famous is the so-called “Hauberg” system of the Siegerland established by an ordinance as early as in 1562 which survived till the early 20th century and is the best-known example of an early form of sustainable forestry based on a combination of peasants’ interests and the wood demand of the ironworks (W 110-112). Around 1800 Alexander Eversmann, a well-known Prussian Bergrat, praised it as a model system “that puts all surrounding lands to shame”.

From the neighbouring Rhineland came Dietrich Brandis, who became appointed General Forest Inspector of British India in 1864 and has been celebrated by Rudyard Kipling. He, too, tried to establish a combination of village and government interests by a kind of tropical agroforestry – today known as the *taungya* system – which he learned from Thai peasants (N & P 174-175). His memory is estimated even in post-colonial India. Even Gifford Pinchot, the founding father of American

forestry, writes in his memoirs: “To Brandis I owe more than I ever can tell. I doubt whether any other man in Europe could have been as wise a guide.” (Breaking New Ground, p. 17)

Ingrid Schaefer with whom I wrote the first edition of my “Wood” (Holz: Ein Naturstoff in der Technikgeschichte, 1987) afterwards studied the forest history of little Lippe country (see her book: “*Ein Gespenst geht um.*” *Politik mit der Holznot in Lippe 1750-1850*, 1992). She discovered that the peasants were the best stewards of the beech forests, and about 1800 they were assisted by the good princess Pauline (who even held a standing position against Napoleon) against the aristocratic big forest owner Donop who advocated coniferous monocultures. So manifold and complicated is real forest history in diverse regions!

Therefore today I hesitate with a dogmatic generalized position against all scientific forestry and governmental administration. In real history is often no clear division between “good guys” and “bad guys”. Gertrude Luebbe-Wolff – member of the German constitutional court with decades of experience in environmental politics with whom I make inspiring forest hikes from time to time – who is convinced follower of the philosopher Hegel likes to impress upon me that all nice ideas of environment protection and sustainable economy are *hot air* if you don’t care for institutions capable to put these ideas into practice. Her Hegelian ideal is the “organic state”: a state based on vivid local and regional communities.

A position hopelessly Prussian? But she admits that the best chance for it have small states, not states like Prussia. (That is the problem with future “United States of Europe”!) Small is beautiful! But the “civil society” strictly separated from the state is more a myth than reality. In the history of environmentalism, from the beginning we frequently find an interplay between “grassroots’ movements” and members of the administration. Likewise a good cooperation between environmentalists and foresters is needed for an effective certification (see W 327-329 the postscript on the “mystery of certificates”!). (My long-time friend and assistant Frank Uekoetter, however, today demands a new German environmental movement independent from the state; see his new book: “*Am Ende der Gewissheiten: Die ökologische Frage im 21. Jahrhundert*, Frankfurt: Campus 2011!)

With the “Holznotkontroverse” going on over the years, to a certain degree I get into the mood of a moderate revision of my former revisionism – the more I have at present a need of discussion. My re-revisionist mood has mainly three causes:

(1) In the course of the controversy, I found several supporters who made me somewhat uncomfortable: dogmatic constructivists who without much research tended toward the view that not only all deforestation is a construct but the forest itself is a construct. (See my *mea culpa* in N & P 327!) This expulsion of all real nature out of history is based upon a misunderstood Foucault. Where constructivism turns into an ideology, it ceases to be a tool of research and becomes instead a con-

venient for laborious field research. As to me, I did not want to propose the thesis that all peasants were good stewards of nature and that mankind lived in harmony with nature till the rise of modern state and industry. There are signs that the equilibrium between man and nature has been unstable over millenia, even in the good old time of the “ecological Indian” (see the nice book of Shepard Krech III, 1999!).

(2) Especially since the 1990ies, a dogmatic anti-state position often became a weapon of the new aggressive global trend towards “deregulation” which in many cases does not support civil liberty but the big corporations. With uneasiness I observed that German forest administrations have been drastically reduced since that time, and therefore I became more cautious with sweeping critical judgments. On the whole, the coniferous monocultures today so much lamented by environmentalists are no result of the teachings of leading forest reformers, but at least in part established behind the back of forest science under the impact of short-sighted financial considerations.

(3) After my first publications on wood history, “sustainable” (“nachhaltig”) has made a surprising worldwide career and became a magic word by the Rio summit of 1992 (not expected by the members of the Brundtland commission who invented “sustainable development” as a compromise formula between the First and the Third World). Today the use of “sustainable” has a much more far-reaching political dimension than thirty years before and therefore needs much more careful consideration. In this regard, I confess that I am split, and that seems to be typical for German environmentalists of today: Since long time, there is one conference on “Nachhaltigkeit” after another, and it is an requirement of political/ecological correctness to profess “Nachhaltigkeit” in the public, but at the same time to mock in small talk that “Nachhaltigkeit” is a mere plastic word. Of course, this state of “Nachhaltigkeit” discourse is very unsatisfactory.

In 2010, in Germany a book was published by the journalist Ulrich Grober which soon became a much-praised bestseller: “Die Entdeckung der Nachhaltigkeit – Kulturgeschichte eines Begriffs”. Sustainability: a discovery made by the greatest minds of Europe from Saint Francis to Beethoven and so on. As to me, I criticized this book as pseudo-history (“Natürlich verordnet”, in “DIE ZEIT”, March 18, 2010): No, “nachhaltig” by its origins is an economic, no environmentalist term; Hans Carl von Carlowitz, who first used “nachhaltend” (but only once!) in his “*Sylvicultura oeconomica*” of 1713 was a supervisor of the Saxonian mines and ironworks with strong industrial interests in wood; and he himself does not even present sustainable forestry as his own invention, but as nothing else than the basic principle of a good peasant and landlord.

But, to be sure, from the view of history “sustainable” is no mere plastic word. It is a term of power, of planning, of strong economic interest; and it is just for that reason one can write environmental history from the aspect of sustainability as I tried it in N & P (whereas from the aspect of

wilderness the whole human history becomes a history of nature destruction!). Therefore, the mere mockery on “Nachhaltigkeit” is misleading; it is better to take the term earnest. Present trends to substitute “sustainable development” by “green economy”, “climate protection” or else appear dubious to me. But it seems to be useful to introduce experience of forest history into the present discourse on “sustainable development”. A dissertation of Hamburg 1984 written by Wiebke Peters on “*Die Nachhaltigkeit als Grundsatz der Forstwirtschaft*” lists at least a dozen different definitions of „Nachhaltigkeit“.

Looking to history, we realize that all depends from the authority which defines sustainability and the method by which it works. And by historical analysis, we discover further typical risks. “Sustainability” can serve as a mere pretext for the appropriation of village forests by the state – and frequently not by an “organic state”, but by a central administration in whose eyes the remote forest people are a strange world which needs to be strictly controlled. Even worse, as Elinor Ostrom noted, state forestry departments are often ineffectual and corrupt, and in fact “nationalization created open access resources where limited-access common-property resources had previously existed.” (W 315; example of Nepal!) Under these conditions Garrett Hardin’s *tragedy of the commons* criticized by Ostrom might really happen.

Therefore, “joint forest management” has recently become a buzzword in India, denoting cooperation between forest-aware villages and decentralized state forestry departments (W 314). Also the underlying philosophy of N & P is the ambiguous assumption that institutional power is important for a sustainable management of natural resources, but that a mere top-down strategy without a basic consensus with the resident population is not effective. From my view, that might be a modern kind of a Buddhist middle way in the sense of E. F. Schumacher’s “*small is beautiful*”.

It may be informative to re-read European forest history from the view of such experiences. At first sight, you see only the conflicts on the forest from medieval to modern times; but on closer inspection you discover much tacit consensus and peaceful conflict solution. The German Peasants’ War of 1525 was in spite of the terrible defeat of the Peasants not totally in vain; afterwards, the princes seem to be more cautious in pruning peasant rights (W 64). If communes held together, they were often able to reclaim rights that had been attacked from above. In Tyrol, a heartland of mining in the early modern period, the communes defended their forest rights in a judicial “five-hundred-years-struggle” while becoming at the same time loyal citizens of the Habsburg empire. They finally emerged victorious in 1847, even before the revolution, when their ancient rights were recognized under property law.

On the other hand, one can sometimes get the impression that the observation of the rules with regard to the village commons analyzed by Elinor Ostrom needed an external authority. One cannot

understand the village economy as an isolated phenomenon, but should take the whole network of village and governmental authorities into consideration. It seems that the Alpine or Japanese villages analyzed by Ostrom are a case different from the Southeast Asian upland tribes described in the work of James C. Scott: *“The Art of Not Being Governed.”* They rather seem to have been developed an art of being governed in an advantageous way. If we observe in the forest history of Central and Western Europe during early modern times – in contrast to many other so-called “high civilizations” of the world – a great transformation towards a new definition of territorial rule no more by forest clearances, but on the contrary by forest protection (W 324), this was surely in many cases no clear progress towards a sustainable economy, but, on the other hand, no sinful Fall of Western mankind, but a change with some promising chances.

By the way, it might be informative to compare the use of “sustainability” in forestry and in agriculture. In the CD-ROM with the collected works of Max Weber you find “nachhaltig” no less than 52 times but mostly with reference to the agrarian rent. Today, sustainable management of the soil might become the biggest and most delicate task for the future. But there are no global solutions, and the style of climate politics will not be effective in soil protection. Sustainable management of the soil had in the past rarely been the task of the state. But the regeneration of the soil usually has a time horizon from one year to another. With regards to forestry, the time horizon extends over generations, and deforestation in mountain regions may destroy the soil for very long time: That is the difference. But what is the practical conclusion?

“Only the state manages things for eternity” (“Nur der Staat wirtschaftet für die Ewigkeit”) taught Heinrich Cotta (W 150). My British colleague Sidney Pollard remarked that this is a typical German-Prussian Hegelian position; the English would reply that a politician has a horizon merely till the next elections, whereas private people manage for their children and grandchildren. He, in spite of that, became an ardent opponent of Thatcherism. To be sure, the discussion on the use and misuse of the state is in no way at its end; I fear it will never be. Therefore no wonder that I have to propose much more open questions than perfect positions. And surely we should be attentive that environmentalism does not suffer the same fate as socialism of being overwhelmed by the seductions of bureaucratic power (N & P 301 f.).