Summary

The Danish Committees on Scientific Dishonesty (UVVU) produced the present decision in paper and in Danish only, and in spite of requests from both Anders Pape Møller and me (and others) UVVU never sent out an official English version. Therefore the text in Danish was copied, word by word, and together with Jette Andersen and Gøsta Nachman translated to English. We always tried to translate as literally as possible without loosing the meaning.

In the last section there is a sentence "UVVU base their opinion on the fact that the data files in question contain at any rate partly constructed data - -" which perhaps could be misunderstood. As will be obvious from the recommendation to UVVU from the ad hoc committee (AHC) the data files in question only refer the data files submitted by APM.

The decision from UVVU is presented in both the Danish and English version so people are welcome to control that the translation has been done properly.
All documents in the present file are parts of the decision from UVVU. The two letters of mine were translated from Danish, whereas the other documents were copied from the original documents in English

Jørgen Rabøl

Forskningsstyrelsen

Ministeriet for Videnskab
Teknologi og Udvikling

Danish Research Agency

Ministry of Science
Technology and Innovation

Udvalgene vedrørende
Videnskabelig Uredelighed

31. oktober 2003

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Lektor, cand.scient. Jørgen Rabøl

mod

Professor, Ph.d. Anders Pape Møller

1. Sagen og dens behandling

Med brev af 28. maj 2000 orienterede Jørgen Rabøl Udvalgene vedrørende Videnskabelig Uredelighed (UVVU) om en brevveksling i anledning af indklagedes arbejde i tidsskriftet OIKOS med titlen "Herbivory affects developmental instability of stone oak, *Quercus rotundifolia*".
Klageren vedlagde en "Opinion" skrevet af ham og laborant Jette Andersen og sendt til OIKOS med statistiske beregninger af nogle af de data, der fandtes i Anders Pape Møllers artikel. Desuden blev artiklens data vurderet over for værdier fra den datafil med originaldata, som man stadig havde på instituttet. Manuskriptet konkretiserer klagerens kritik af Møller & de Lope (1998):

1. angivelserne af stenegens bladareal
2. påfaldende homogenitet af gennemsnit i tabel 1 og 2, og
3. strukturen af de udregnede relative mål for bladenes asymmetri.

Klagerens opinion blev ikke optaget i tidsskriftet, idet artiklen blev trukket tilbage af Anders Pape Møller og F. de Lope.

I brev af 29. marts 2001 blev orienteringen afløst af en formel klage over professor, Ph.d. Anders Pape Møller. Klagen indeholdt desuden angreb på OIKOS's redaktør for manglende vilje til at indlede en debat i tidsskriftet. UVVU fulgte sædvanlig forundersøgelsespraksis og indhentede parternes skriftlige indlæg i overensstemmelse med § 4, stk. 2, i Forretningsorden for Udvalgene vedrørende Videnskabelig Uredelighed.

Klagen blev forelagt for UVVU's udvalg for naturvidenskabelig, jordbrugs- og veterinærvidenskabelig og teknisk-videnskabelig forskning ved et møde den 14. august 2001. Udvalget besluttede at behandle sagen og nedsatte et ad hoc-udvalg med følgende medlemmer:

Forskningsprofessor, dr. agro. Arne Helweg
(formand)
Danmarks JordbrugsForskning

Professor Freddy Bugge Christiansen (eksternt medlem)
Afd. for Genetik og Økologi, Aarhus Universitet

Professor i biostatistik Ib Skovgaard (eksternt medlem)
Institut for Matematik og Fysik, Kgl. Veterinær- og Landbohøjskole.

Anders Pape Møller gjorde indsigelse mod Freddy Bugge Christiansens deltagelse, mens Jørgen Rabøl accepterede ad hoc-udvalgets sammensætning. Efter at have vurderet sagen konkluderede UVVU's formand, at der på det foreliggende grundlag ikke forelå inhabilitet.

Ad hoc-udvalgets redegørelse for sagen har i dansk og engelsk tekst ved skrivelser dateret 25. oktober 2002 været forelagt for sagens parter med henblik på faktuelle kommentarer. Der blev givet parterne svarfrist til mandag den 25. november 2002. Klageren har svaret ved skrivelse af 20. november 2002, og indklagede har svaret den 31. januar 2003, idet han anførte, at han først havde modtaget brevet, som var genfremsendt anbefalet fra UVVU, den 28. januar 2003. Den 11. marts blev ad hoc-udvalgets svar sendt til klageren og indklagede med en svarfrist på 14 dage. Klageren svarede den 15. marts 2003, mens den indklagede ikke har svaret.

UVVU (Udvalget for naturvidenskabelig, jordbrugs- og veterinærvidenskabelig og teknisk-videnskabelig forskning) har herefter fundet sagen tilstrækkelig oplyst og har behandlet den på det således tilvejebragte grundlag.

2. UVVU's sammenfatning af ad hoc-udvalgets redegørelse

Det kritiserede arbejde er artiklen "Herbivory affects developmental instability of stone oak, *Quercus rotundifolia*", som blev publiceret i tidsskriftet "OIKOS" (1998) 82:246-252 af Professor, Ph.d. Anders Pape Møller og F. de Lope. I artiklen beskrives, at de nye blade af den stedsegrønne steneg udviser stigende asymmetri ved stigende grader af "herbivory" (fremkaldt ved at fjerne henholdsvis ingen, halvdelen og alle de gamle blade 3 uger før løvspring). Asymmetrien illustreres ved den numeriske forskel mellem bredden af venstre og højre halvdel af de nye blade.

Ad hoc-udvalget, der har haft de fremkomne indlæg i sagen samt originaldata, som de foreligger fra Københavns Universitet, og data fra Anders Pape Møller til rådighed, traf følgende konklusion:

- De fremsendte datafiler fra indklagede professor, Ph.d. Anders Pape Møller er mellemregningsfiler og ikke rådata. Vurderinger af og sammenligninger mellem disse filer viser, at de i hvert fald delvist er konstruerede og ikke kan være baseret på autentiske målinger.
- Der er meget stærke indicier for, at de resultater, der er gengivet i artiklens tabeller, på væsentlige punkter ikke gengiver autentiske målinger.
- Der gives i hele sagen et indtryk af store videnskabelige og personlige uoverensstemmelser mellem Anders Pape Møller og Jørgen Rabøl, og i flere breve fremsættes gensidige alvorlige beskyldninger, ligesom Anders Pape Møller har indsendt klage til UVVU over klageren, lektor Jørgen Rabøl. I vurderingen af sagen er der ikke taget hensyn til disse forhold, idet ad hoc-udvalget kun har skullet vurdere artiklen og dens indhold samt datasættene og deres anvendelse.
- Ad hoc-udvalget finder det beklageligt, at klageren Jørgen Rabøl har brudt fortrolighedsanmodningen fra UVVU og sendt en mail om sagen til professor Jean Clobert, som er Anders Pape Møllers tidligere chef.

Da OIKOS's redaktør, efter at artiklen var publiceret, foranledigede den annulleret, har ad hoc- udvalget ikke fundet anledning til at foretage sig videre over for OIKOS.

Ad hoc-udvalgets redegørelse vedhæftes og indgår som en del af nærværende afgørelse. Det samme gælder parternes kommentarer til ad hoc-udvalgets redegørelse, ad hoc-udvalgets bemærkninger til de modtagne kommentarer og klagerens reaktion herpå.

3. UVVU's behandling af sagen

UVVU's udvalg for naturvidenskabelig, jordbrugs- og veterinærvidenskabelig og teknisk-videnskabelig forskning behandlede sagen ved sit møde den 29. oktober 2003.

Afgørelsen er truffet af:

Landsdommer *Henrik Waaben* (formand)
Direktør, dr.med. *Claus Christiansen*
Professor *Vagn Lundsgaard Hansen*
Lektor, dr. scient. *Bodil Norrild*
Seniorforsker, ph.d., dr. scient. *Hanne N. Rasmussen*.

UVVU finder i det hele at kunne tiltræde ad hoc-udvalgets redegørelse for sagen og de anlagte vurderinger. UVVU skal herved særligt pege på, at hverken de på Københavns Universitet opbevarede rådata eller de af Anders Pape Møller fremsendte data kan føre til de resultater, der fremgår af den pågældende artikel. UVVU skal også pege på det af ad hoc-udvalget fremhævede forhold, at artiklen rummer sammenfald og statistisk modstridende resultater.

UVVU lægger således til grund, at de omhandlede datafiler indeholder i hvert fald delvist konstruerede data, og at de resultater, der er gengivet i artiklens tabeller, på væsentlige punkter ikke gengiver autentiske målinger. Der er ved denne handling sket en forfalskning af det videnskabelige budskab, og UVVU må antage, at dette er sket forsætligt, eller at der fra indklagede som medforfatter i hvert fald har været udvist grov forsømmelighed i forbindelse med publiceringen. På det foreliggende grundlag er det derfor UVVU`s opfattelse, at der fra Anders Pape Møllers side er udvist videnskabelig uredelighed, jf. § 3 i bekendtgørelse nr. 933 af 15. december 1998 om Udvalgene vedrørende Videnskabelig Uredelighed.

UVVU skal beklage den lange sagsbehandlingstid.

På udvalgets vegne

Henrik Waaben
Landsdommer
Formand for UVVU

Associate Professor Jørgen Rabøl

versus

Professor, Ph.D. Anders Pape Møller

1. The case and its assessment

By letter of May 28, 2000, Jørgen Rabøl oriented The Danish Committees on Scientific Dishonesty (UVVU) of an exchange of letters concerning the complainee's (APM) paper in the journal OIKOS titled "Herbivory affects developmental instability of stone oak, *Quercus rotundifolia*".
The claimant (JR) attached an "Opinion" authored by him and technician Ms. Jette Andersen and submitted to OIKOS along with statistical calculations of some of the data stated in Anders Pape Møller's paper. Furthermore the data in the paper were compared with the data from the original measurements still kept at the Zoological Institute. The manuscript specifies the criticism of Møller & de Lope (1998) put forward by the claimant:

1. the stated areas of the stone oak leaves
2 striking homogeneity of means in tables 1 and 2, and
3 the structure of the calculated relative measurements of leaf asymmetry.

The opinion put forward by the claimant was not accepted by the journal, as Anders Pape Møller and F. de Lope retracted the paper.

In a letter of March 29, 2001, this orientation was replaced by a formal complaint against professor, Ph.D. Anders Pape Møller. The complaint also included attacks on the editor of OIKOS for lack of will to a debate in the journal. UVVU followed their usual practice of preliminary investigations and obtained written statements in accordance with Article 4, Section 2 in the rules of procedure of The Danish Committees on Scientific Dishonesty.

The complaint was submitted to the UVVU Committee for research in natural science, agricultural and veterinary science and technical science at a meeting on August 14, 2001. The committee decided to accept the case for consideration and set up an ad hoc committee with the following members:

Research professor, Dr. agro. Arne Helweg
(chairman)
Danish Institute of Agricultural Sciences

Professor Freddy Bugge Christiansen (external member)
Dept. of Genetics and Ecology,
Aarhus University

Professor of Biostatistics Ib Skovgaard (external member)
Institute of Mathematics and Physics,
Royal Veterinary and Agricultural University

Anders Pape Møller objected to the participation of Freddy Bugge Christiansen, whereas Jørgen Rabøl accepted the composition of the ad hoc committee. Having evaluated the case, the chairman of UVVU concluded that no conflict of interests existed in the present case.

The review of the case by the ad hoc committee has been presented to the parties in English and Danish text by letters of October 25, 2002, with a view to factual comments. A deadline for answers from the parties was set to Monday November 25, 2002. The claimant answered in a letter of November 20, 2002, and the complainee answered on 31 January, explaining that he did not receive the letter which had been resubmitted as a recommended letter from UVVU, until January 28, 2003. On March 11, the answer from the ad hoc committee was sent to the claimant and the complainee with a deadline of 14 days to respond. The claimant answered on March 15, 2003, the complainee did not respond.

UVVU (Committee for Natural Sciences, Agricultural and Veterinary Research and Technical-Scientific Research) then found the case sufficiently illustrated and dealt with it based on the material provided.

2. UVVU's resume of the ad hoc committee's recommendation

The criticized paper is the article "Herbivory affects developmental instability of stone oak, *Quercus rotundifolia*", published in the journal "OIKOS" (1998) 82:246-252 by professor, Ph.d. Anders Pape Møller and F. de Lope. The article describes how new leaves of perennial stone oak show increasing asymmetry with increasing degrees of "herbivory" (induced by removing no leaves, half of or all old leaves, respectively, three weeks before leafing). Asymmetry was calculated as the numerical difference between the widths of the left and right halves of the new leaves.

The ad hoc-committee, which had at its disposal the pleas as presented in the case, the original data from the University of Copenhagen plus data from Anders Pape Møller arrived at the following conclusion:

- The sumitted data files from the complainee professor, Ph.D. Anders Pape Møller are working files, not raw data. Evaluations and comparisons of these files show that they are, at least, partly constructed and cannot derive from authentic measurements.
- There are very strong indications that the results given in the tables of the paper on essential points do not represent authentic measurements.
- Throughout the entire case the impression is given of great scientific and personal disagreements between Anders Pape Møller and Jørgen Rabøl, and several letters contain mutual serious accusations, just as Anders Pape Møller on his side has submitted a complaint to UVVU against the claimant Associate Prof. Jørgen Rabøl. The evaluation does not consider these relationships, as the objective of the committee was to evaluate only the paper and its content as well as the data sets and their use.

- The ad hoc-committee finds it unfortunate that the claimant, Jørgen Rabøl, broke UVVU's request of confidentiality by sending an e-mail about the case to Anders Pape Møller's former superior, professor Jean Clobert.

Since, after publication of the paper, the editor of OIKOS caused it to be retracted, the ad hoc committee has found no reason to take further action against OIKOS.

The recommendation of the ad hoc committee is attached and forms part of this decision. This also applies to the comments of the parties on the recommendation of the ad hoc committee, the comments of the ad hoc committee on the comments received and the reaction of the claimant thereon.

3. The ruling of the case by UVVU

UVVU's Committee for research in natural science, agricultural and veterinary research and technical science dealt with the case at its meeting on October 29, 2003.
The decision was made by:

High Court Judge *Henrik Waaben* (chairman)
Director, Dr. med. *Claus Christiansen*
Professor *Vagn Lundsgaard Hansen*
Ass. professor, D. Sc. *Bodil Norrild*
Senior scientist, Ph.D., D. Sc. *Hanne N. Rasmussen*.

All things considered, UVVU can accept the account of the ad hoc committee and the formulated evaluations. In particular, UVVU points out that neither the raw data on the Copenhagen University harddisk, nor the data submitted by Anders Pape Møller can lead to the results presented in the paper in question. UVVU further points at what the ad hoc committee emphasizes, namely that the paper contains coincidences and statistically contradictory results.

UVVU base their opinion on the fact that the data files in question contain at any rate partly constructed data and that the results shown in the tables in the paper on essential points do not reflect authentic measurements. Thus, a falsification of the scientific message has taken place, and UVVU must assume that this was done deliberately, or that the complainee, as co-author in all circumstances has shown gross negligence in connection with its publication. On this basis it is therefore UVVU's opinion that Anders Pape Møller has shown scientific dishonesty, cf. Article 3 in Danish Consecutive Order No. 933 of December 15, 1998 Order on the Danish committees on scientific dishonesty.

UVVU apologizes for the delay in the procedure of the case.

On behalf of the Committee

Henrik Waaben
High Court Judge
Chairman of UVVU

Recommendation to UVVU

Description and proposal for ruling in the case made by Associate Professor Jørgen Rabøl against Professor, PhD Anders Pape Møller

September 25th, 2002

The recommendation has been drafted by an ad hoc committee with the following members: Professor Freddy Bugge Christiansen, University of Aarhus, Professor Ib Michael Skovgaard, the Royal Veterinary and Agricultural University, and Research Professor Arne Helweg, Danish Institute of Agricultural Sciences, chairman and member of UVVU.

The recommendation contains the following:

1. Summary and recommendation for ruling

2. Short description of the case

3. Assessment of the paper

4. Comparisons of the various data sets with statistical assessments.

5. Concluding summary of AHC's assessments

Supplement: Similarity in old area between APM1 and APM2

1. Summary and recommendation for ruling

The object of complaint is the article "Herbivory affects developmental instability of stone oak, Quercus rotundfolia" published in Oikos (1998) 82:246-252 by Professor Anders Pape Møller (APM) and F. de Lope (FdL). The paper describes an observation that new leaves on young oak trees showed increasing asymmetry as the degree of herbivory on old leaves increased (removal of no leaves, half the leaves, and all old leaves, respectively, three weeks before foliation). The asymmetry is quantified by the numerical difference between the width of the left and the right half of the new leaves.

Associate Professor Jørgen Rabøl (JR) submitted on March 29, 2001 a formal complaint to UVVU. In this and the appended documents JR accuses APM of providing incorrect information and presenting manufactured data in the paper. On November 24, 2000, Editor-in-Chief Nils Malmer from Oikos had demanded a retraction of the paper based on the information received from JR and control calculations solicited by the editors. The retraction was accepted by the authors. The complaint from JR to UVVU is, however, based on the lack of open debate about the case (a submitted "opinion" from JR was not accepted for publication in Oikos) and on the wording of the retraction that cast unjustified suspicion on Laboratory Technician Jette Andersen, who carried out the measurements.

In October 2001 UVVU formed an ad hoc committee (AHC) with members Professor Freddy Bugge Christiansen, University of Aarhus, Professor Ib Michael Skovgaard, KVL, and Research Professor Arne Helweg (member of UVVU) as chairman. The committee had the following material for its assessment:

- A copy of the paper that is the object of the complaint, received October 25, 2001

- Various supplements in the form of letters, received October 25, 2001

- A diskette containing a data file from Jette Andersen, received November 30, 2001

- Readable data file from Anders Pape Møller, received May 7, 2002

AHC has held a conference call on November 13, 2001 and a meeting in Flakkebjerg on May 30, 2002.

AHC's conclusion to the submitted material can be stated as follows:

- The submitted data files from the complainee, Professor, PhD Anders Pape Møller, are working files and not original data. Assessments of and comparisons between these files show that they are at least in part constructed and cannot be based on authentic measurements.

- There are very strong indications that the results stated in the tables of the paper on important points do not express authentic measurements.

- The documents of the case reflect major scientific and personal disagreements between Anders Pape Møller and Associate Professor Jørgen Rabøl, and in several letters serious recriminations are made. In addition, Anders Pape Møller has lodged a complaint to UVVU against Jørgen Rabøl. These circumstances have not been considered in the assessment of the case, as AHC's task has only been to assess the paper and its content as well as the data sets and their use.

- The ad hoc committee finds that it is unfortunate that Jørgen Rabøl broke UVVU's request for confidentiality in disclosing the case in an e-mail to Jean Clobert, the former employer of Anders Pape Møller.

At the editor's request the paper has already been retracted in Oikos. UVVU has therefore no cause for further action with regard to this journal.

2. Short description of the case

The criticised work is the paper "Herbivory affects developmental instability of stone oak, Quercus rotundfolia published in Oikos (1998) 82:246-252 by Professor, PhD, Anders Pape Møller and F. de Lope.

In the paper the new leaves of the evergreen stone oak are described as showing increasing asymmetry as the degree of herbivory on old leaves increased (caused by removing no leaves, half the leaves, and all the leaves, respectively, 3 weeks before foliation). The asymmetry is quantified by the numerical difference between the width of the left and the right half of the new leaves.

The case commenced in November 1999 when Associate Professor Jørgen Rabøl (JR) attacked the paper in an e-mail. The points of attack are accusations against APM for not using the data measured by the laboratory technician Jette Andersen (JA), and disagreement on "foliar asymmetry" and the extent to which this reflects different degrees of "herbivory".

JR sends the first e-mail to inform UVVU on May 28, 2000 and to ask whether we initiate investigations of our own accord. Enclosed with the e-mail is an "Opinion" by him and Laboratory Technician Jette Andersen, which they have submitted to Oikos. The "Opinion" presents statistical calculations on some of the data found in APM's paper. The data of the paper are furthermore compared with the file with original data that was still kept at the department. The "Opinion" manuscript concretises JR's criticism of Møller & de Lope (1998). The first item is the area specifications. The next is the striking similarity between the means of the characters in Tables 1 and 2. The third is the structure of the calculated relative measurements for asymmetry.

Formal complaint from JR is sent to UVVU on March 29, 2001 with the documents of the case. On November 24, 2000, Editor-in-Chief Nils Malmer from Oikos demanded a retraction of APM & FdL's paper, as the experts of the journal have not been able to reconstruct the results in the paper from either a data set A from JR and JA or a data set B from APM. However, JR is not satisfied with the wording of the retraction, which he feels is grossly insulting to Jette Andersen.

The opinion contribution from JR is not accepted for publication because Oikos valuate the retraction of the paper as most important.

On October 9, JR and APM are informed by UVVU that an ad hoc committee is formed consisting of Professor Freddy Bugge Christiansen, University of Aarhus (FBC) and Professor Ib Michael Skovgaard, KVL (IMS) with Research Professor Arne Helweg of UVVU as chairman. APM has objections to FBC "there will be accusations of unfair treatment from J. Rabøl", whereas JR accepts the composition of AHC. After an interview with FBC, no conflict of interests is thought to exist

October 25, 2001: UVVU send the documents to FBC, MS, and AH. November 13: Conference call, with minutes November 23: Requesting data files and other materials from APM, JR and from Oikos (Nils Malmer). November 30: Received diskette from JR containing Jette Andersen's data set

December 5: Reply letter from Nils Maimer: "Genom at dra tilbake artiklen har professor Pape Møller och hans medforfattere ju medgett aft de inte längre stir för vad som sägs i den anmälde artiklen. Ärendet kan derför så som det avslutats enligt min mening knappast betragtes som oredligt beteende i vetenskabeligt sammenhang, snarere tvärtom". Oikos no longer has the material from the assessment of the paper.

January 28, 2002: Reminded APM to submit his data set (in the process we have been somewhat slow in replying to his letters). March 8: Receives from APM a copy of his field journal and a diskette with data.

Cannot open the file. (It is probably a Mac version of Statview). April 8: APM asks where he should complain about the hearing in the case. April 23: Inge Berg Hansen procures the file from APM May 7: Readable data set from APM received by all AHC members via UVVU. May 30: Meeting in Flakkebjerg for discussions of the case, with minutes.

3. Assessment of the paper

1. The standard errors (SE) in Table 1 seem unrealistically large, especially compared with the standard errors in Tables 2 and 3. Converted into standard deviations (SD = SE√N), those in Table 1 are approximately twice the size of those in Tables 2 and 3 (this is also noted in the "Opinion" contribution from JR and JA: Table A in the revised version). For random samples from the same population, the standard deviations will be of the same magnitude, except for random variations. This is evident if e.g. the three groups in Table 2 are compared, but these show a large (inexplicable) difference from the values in Table 1. Moreover, the coefficients of variation on the basic measurements (width and area) are 60-70%, which seems very high. APM has not offered any explanations for this.

2. The four means for old leaves in Table 1 (20.59, 12.7, 1.0, and 0.081) and the four means (20.58, 12.7, 1.01, and 0.08) for the control group in Table 2 show striking similarity. Furthermore, the standard errors for three of the quantities (0.56, 0.4, and 0.1) in Table 1 are scaled versions of the corresponding standard errors (1.15, 0.8, and 0.21) in Table 2, in that the Table 2 standard errors may be obtained by multiplying the Table i values by about 2.05. (With the number of digits used a common factor of 2.08 may actually fit all four pairs of SE values in the two tables). Such a similarity of means and standard deviations may cause suspicion of incorrect reuse of data; alternatively, it is a very rare coincidence. APM has not submitted data or in other ways tried to explain this peculiarity.

3. In Tables 2 and 3 the mean for "leaf rel. asymmetry" cannot have been calculated as the mean of the "leaf rel. asymmetry" of the individual trees. Rather, it is obvious that it is the mean of "leaf abs. asymmetry" relative to the mean of "leaf width". The latter calculation fits the values to several decimals, as pointed out in the "Opinion" by JR and JA, and in addition, the former figure would yield a distinctly higher value than that displayed unless there is a high correlation between asymmetry and width as well as a conspicuously large coefficient of variation on asymmetry. (Such a correlation would moreover be inconsistent with the cited standard errors). In the letter to UVVU dated August 1, 2001, APM maintains indirectly that the calculation *was* carried out as described in the paper.

4. Comparisons of the various data sets with statistical assessments

The following data sets/files relevant to the case are available:

Term	Description	Provided by	Remarks
The paper	Tables 1, 2, and 3 from the paper in Oikos	APM and FdL	Only calculated items - not original data
JA	Data measured by JA	JA and JR	Measurements of leaves (left- and right-hand side) for 343 trees
APM1	Data for Table 1	APM	Only calculated quantities per tree - not measurements per leaf
APM2	Data for Table 2	APM	Only calculated quantities per tree - not measurements per leaf
APM3	Data for Table 3	APM	Only calculated quantities per tree - not measurements per leaf
APMsmlg	Measure (JA) and re-measure (APM and student) of leaves	APM	The objects of measurements are unclear

In the following the data sets are mentioned one by one, including their mutual correspondence. The comparisons largely refer to the corresponding items in the tables of the paper. The following terms are used:

- **oldarea,newarea,area**: leaf areas
- **lwd,rwd**: Left and right width of the leaf (not included in APTvFs files)
- **wd,w**: leaf width, calculated as **lwd+rwd**, but given directly in APM's files
- **fa**: Fluctuating asymmetry which is the numerical value of **lwd-rwd**, but given directly in APMs files
- **rfa,relfa**: relative fluctuating asymmetry, calculated as **rfa = fa/wd**

JA

This data set is claimed (by JA) to reflect the results of the measurements that she has carried out on the trees and delivered to APM. The file contains data for 343 trees, which agrees with the paper, and it provides more or less the same variables as in the paper (tree no., age, length, left width, right width, and some measurements that are irrelevant in this context). Tree no. clearly indicates that the trees are grouped in three groups, which is incommensurable but not contradictory to the paper. Age has values 0 or 1, which is well in keeping with the new and old leaves of the paper, and there are typically 5 leaves of each age per tree, which also agrees with the description in the paper. Length is not referred to in the paper where "area" measurements with values that fit "length" better are discussed. But the calculated quantities based on this file and the items in Table 1 of the paper do not agree with one another at all.

The calculations on the JA data set produce the values stated in the "Opinion" by JR and JA. (There may be decimal deviations as there may be an uncertainty concerning the inclusion of a very few measurements).

The comparison between the material submitted by APM and JR/JA's data file is difficult because APM did not submit the original measurements to the committee, but only files that state tree-wise means of the measurements. JR/JA's data file shows measurements for each tree carried out on one to six leaves, usually five.

After correction of obvious errors in JR/JA's data file (described in the "Opinion"), the treewise means of the measurements in this file have been calculated. A selection of these means have been searched for in APM's working file for Table 1 without finding similar values, and selected values from APM's file for Table 1 have been searched for among the means from JR/JA's data file without finding similarity.

Conclusion: The JA data set cannot, either precisely or approximately, lead to the results stated in the paper.

APM1

This is meant to reflect the original data producing Table 1 of the paper. By calculation of mean values and "std.err." (corresponding to Table 1 in the paper) on the data set, the results shown below are obtained

Calculations for Table 1	Old leaves	New leaves
Leaf area	20.59 (0.56)	20.43 (0.43).
Leaf width	8.0 (0.1)	6.8 (0.1)
Abs. leaf asymmetry	0.7 (0.03)	0.8 (0.04)
Rel. leaf asymmetry	0.085 (0.004)	0.123 (0.006)
N	343	343

Table 1 of the paper follows for comparison:

Table 1 of the paper	Old leaves	New leaves
Leaf area	20.59 (0.56) ..	20.43 (0.67)
Leaf width	12.7 (0.4)	10.3 (0.4)
Abs. leaf asymmetry	1.0 (0.1)	1.0 (0.1)
Rel. leaf asymmetry	0.081 (0.006)	0.102 (0.007)
N	343	343

Three of the 16 calculated values agree with those in Table 1, 2 values almost agree, while the remaining 11 of 16 calculated quantities do not agree between the tabels.

The attempt to find any similarity worth mentioning between APM1 and the JA data set has not been successful.

It is surprising that AIM 1 only contains calculated quantities concerning the widths and not the original measurements of the left and the right width of the leaves.

Conclusion: The APM1 data set cannot be the data material behind Table 1 of the paper.

APM2

This is stated to be the data material producing Table 2 of the paper. As stated in the paper, it contains measurements from three groups of 25 trees. The values calculated from the data file that correspond to the first half (new leaves) of Table 2 of the paper are as follows (with the exception of the F and P columns, which are of minor importance to the assessment):

Calculations for Table 2	Complete	Partial	Control
Leaf area	206.8 (11.2)	207.7 (11.0)	205.8 (11.5)
Leaf width	13.0 (0.9)	12.1 (0.7)	12.7 (0.8)
Leaf abs. asymmetry	2.08 (0.21)	1.51 (0.23)	1.01 (0.21)
Leaf rel. asymmetry	0.159 (0.011)	0.114 (0.014)	0.077 (0.014)
N	25	25	25

Table 2 of the paper follows for comparison:

Table 2 of the paper (extract)	Complete	Partial	Control
Leaf area	20.68 (1.12)	20.77 (1.10)	20.58 (1.15)
Leaf width	13.0 (0.9)	12.1 (0.7)	12.7 (0.8)
Leaf abs. asymmetry	2.08 (0.21)	1.51 (0.22)	1.01 (0.21)
Leaf rel. asymmetry	0.160 (0.011)	0.125 (0.010)	0.080 (0.014)
N	25	25	25

Here 20 of the 24 table values agree concerning new leaves (except for the placement of decimal points for area), and they almost agree on 3 of the remaining 4, whereas the last value differs somewhat. On the other hand, APM2 does not at all agree with the second half of Table 2 with respect to the difference between new and old leaves. There may however be some uncertainty as how this part of the table has been calculated as it is not described in the paper.

There are further peculiarities regarding the data set, and these have the effect that it cannot be a reflection of correctly measured values. For example, the values for the last variable of the data set (old FA) are increasing tree for tree through all 75 trees. This cannot be caused by a subsequent sorting as the trees are separated into three treatment groups (1-25, 26-50, and 5 1-75), which - if this was the case - were to yield perfectly ordered results although the treatment cannot have an effect on the old leaf width. Neither can it be a question of the trees being sorted with the sorting by treatments forgotten by mistake, as the data in that case would no longer agree with the table values.

There is another feature, however, that even more clearly shows that this data file is artificial. All 75 values for "old area" recur (with 3 decimal points, that is, 4-5 significant figures) in the data file APM1 (see Supplement 1), This can definitely not be a coincidence as similarity of two measurements hardly ever occurs (3 cases of coincidence among 343 in the data file AMP 1). Such coincidence 75 times out of 75 data points can be ruled out unless measurements are reused. But in that case width and FA ought also to be similar, but they yield totally different values. In documentation of this, the data file APM2, sorted according to old area, and the values from the 75 trees from APM1 that yield the same values on old area are appended to this document

Conclusion: The data set APM2 cannot be authentic. It must, at least in part, be a fabricated data material

APM3

This is asserted to be the data material behind Table 3 in the paper. It agrees with 14 out of 16 table values, it almost agrees on one value, whereas it differs somewhat on the last value (the table is not shown here). However, as in APM2 there is the peculiarity that the calculated relative FA (mean of FA/WD) agrees exactly (3 dec.) with the FA value in the table (rounded off to 1 dec.) divided by the WD value in the table (rounded off to 1 dec.). Using values that are not rounded off, this similarity does not appear. Under normal circumstances the two methods of calculation will result in different values - in fact, the similarity of the values occurs with a probability of less than 1 per cent In APM3 it occurs 2 times out of 2 (each with a probability of less than 1/100 if data were authentic). In APM2 it occurs 3 times out of 3 (for the three treatment groups). The only reasonable conclusion to this phenomenon is, as also noted in the "Opinion" by JR and JA, that the relative asymmetries in Table 2 and Table 3 of the paper are calculated from the other table values and not as described in the paper. The subsequent submission by APM of two data files (APM2 and APM3) in which the two methods of calculation yield the same result in 5 instances out of 5 is a convincing indication that the data files are fabricated.

Conclusion: The data set APM3 cannot be authentic. There are very strong indications that it must, at least in part, be a fabricated data material.

APMsmlg
These data are of minor interest as they are not relevant to the comparison between the data of the paper and the underlying values.

5. Concluding summary of AHC's assessments

1. The data files submitted by APM are working files and not original data. After assessment of and comparisons between these files, AHC is convinced that they are at least partly fabricated and cannot be based on authentic measurements.

2. Furthermore, there are very strong indications that the results stated in the tables of the paper on important points do not represent authentic measurements.

Reasons.

1a. The files APM2 and APM3 contain values that cannot be authentic due to a large number of instances of similarity, which are very unlikely.

1b. The file APM1 does not yield results that agree with Table 1 of the paper.

2a. The laboratory technician (JA), who according to the paper has measured the leaves, has submitted a data set that does not agree with the results of the paper.

2b. APM has not been able to submit a genuine data set that agrees with the results of the paper.

2c. After a long correspondence APM has submitted some, at least partly, fabricated data files.

2d. Despite the good results of the paper compared with the theory, APM has retracted the paper. The assertion that this is due to incorrect measurements is hardly credible, as it does not explain the lack of data that are able to reproduce the table values, and as it is incongruous with the good results that are obtained.

2e. In itself the paper contains some instances of similarity and statistically inconsistent results (concerning standard errors) that question the authenticity of the results.

Supplement 1. Similarity in old area between APM1 and APM2.

Table 2 data file: sorted according to old area

tree	trm	OldArea	NewArea	OldW	NewW	NewFA	OldFA
1	Control	5.767	217.780	2.478	8.205	1.575	0.319
2	Partial	6.258	211.330	4.738	11.175	0.779	0.167
3	Partial	6.568	220.190	32.343	16.211	3.138	0.167
4	Control	6.938	157.290	31.977	8.855	0.424	0.289
5	Partial	7.291	118.530	17.437	10.541	2.737	0.213
6	Partial	7.664	253.990	12.475	11.151	1.220	0.167
7	Partial	8.326	195.220	36.412	15.510	1.392	0.122
8	Complete	8.411	155.716	7.442	14.829	1.928	0.015
9	Partial	8.507	204.831	5.017	9.288	0.029	0.243
10	Complete	8.580	221.984	6.318	13.287	1.702	0.000
11	Complete	8.735	224.950	5.499	8.335	1.427	0.000
12	Partial	8.800	183.130	1.656	12.550	0.603	0.198
13	Partial	8.807	306.990	17.702	10.145	1.235	0.182
14	Partial	8.876	193.953	6.372	16.313	3.627	0.152
15	Control	8.897	175.580	2.539	16.812	0.393	0.319
16	Complete	8.965	268.690	13.133	13.815	2.202	0.030
17	Complete	8.977	60.847	28.788	7.250	1.640	0.076
18	Partial	9.593	102.650	11.827	6.268	0.431	0.228
19	Complete	9.797	279.710	10.191	11.468	2.181	0.015
20	Complete	9.956	176.770	10.481	13.029	3.469	0.030
21	Partial	11.132	233.598	6.398	9.966	1.651	0.213
22	Complete	12.095	162.280	23.762	21.365	3.318	0.015
23	Partial	12.271	178.276	15.282	3.980	0.137	0.228
24	Partial	13.160	114.320	13.087	12.379	1.778	0.198
25	Complete	13.270	119.562	11.445	4.148	0.534	0.106
26	Control	13.600	152.560	11.707	12.667	0.325	0.334
27	Complete	13.726	183.963	30.105	15.964	1.398	0.000
28	Complete	13.770	295.906	9.725	21.848	4.530	0.030
29	Partial	14.280	217.540	9.266	10.083	0.264	0.137
30	Control	14.360	224.390	2.613	12.228	1.519	0.410
31	Complete	15.958	181.749	10.454	9.936	1.676	0.030
32	Control	16.001	150.228	16.338	15.898	1.125	0.380
33	Complete	16.058	210.495	7.793	9.660	0.091	0.076
34	Control	16.322	256.990	6.149	16.803	2.548	0.289
35	Partial	16.448	224.859	12.209	12.211	1.322	0.167
36	Control	16.678	210.980	9.562	10.714	0.612	0.350
37	Partial	16.854	225.104	7.229	17.319	2.778	0.137
38	Complete	17.367	155.670	9.872	12.979	3.702	0.046
39	Partial	17.474	218.225	7.241	13.422	1.377	0.167
40,	Control	17.791	178.944	11.951	9.966	0.566	0.243
41	Complete	17.947	206.880	12.085	13.369	1.683	0.000
42	Partial	18.215	124.928	18.701	13.109	0.901	0.106
43	Complete	19.229	212.081	4.754	15.246	2.057	0.000
44	Control	19.339	231.020	13.568	16.713	0.502	0.319
45	Control	20.155	250.370	13.703	12.039	0.447	.319
46	Partial	20.309	174.002	5.218	17.071	4.246	0.167
47	Partial	21.215	276.620	12.308	16.036	2.737	0.213
48	Complete	'21.934	151.933	10.857	8.663	1.181	0.030
49	Control	21.951	394.110	0.645	15.563	4.823	0.380
50	Control	22.280	183.328	8.452	12.448	0.615	0.350
51	Control	22.695	175.480	7.811	14.401	0.515	0.304
52	Partial.	22.726	293.690	35.251	6.726	0.313	0.228
53	Partial	22.920	286.720	15.462	12.660	1.958	0.213
54	Control	22.933	203.086	6.118	9.188	1.467	0.410

tree	trm	OldArea	NewArea	OldW	NewW	NewFA	OldFA
55	Partial	22.953	252.850	25.365	13.903	1.103	0.122
56	Partial	23.593	197.647	14.818	12.343	1.225	0.182
57	Control	25.235	254.340	10.304	15.177	1.622	0.334
58	Complete.	25.581	182.476	26.349	15.923	2.230	0.000
59	Complete	27.641	224.300	6.369	13.118	2.030	0.000
60	Control	28.176	208.650	13.277	20.715	1.593	0.319
61	Control	28.206	171.710	12.686	3.943	0339	0.274
62	Control	28.935	206.127	10.430	12.304	1.495	0.258
63	Complete	29.501	212.104	17.701	18.524	2.194	0.030
64	Partial	30.235	183.597	10.945	12.159	0.778	0.106
65	Complete	31.143	291.313	12.304	12.998	2.141	0.030
66	Complete	32.522	239.491	11.149	11.667	2.004	0.091
67	Control	34.839	264.950	18.414	9.323	0.003	0.289
68	Control	35.601	214.100	4.963	14.075	1.061	0.410
69	Complete	37.347	273.110	8.241	14.510	1.948	0.015
70	Control	38.688	146.020	.18.681	7.700	0.000	0.304
71	Complete	38.978	264.010	14.943	16.718	3.872	0.000
72	Control	39.235	203.890	19.363	14.392	0.120	0.304
73	Complete	42.130	213.983	15.016	6.328	0.951	0.000
74	Control	43.193	80.690	6.799	9.724	0.017	0.289
75	Control	45.228	232.118	13.589	17.684	1.502	0.380

Extract from Table 1 data file: 75 obs. matching old area from Table 2 data file

tree	OldArea	NewArea	OldW	NewW	NewFA	OldFA
58	5.767	23.929	5.945	11.685	1.19	0.21
260	6.258	19.427	6.735	5.520	0.54	0.11
298	6.568	18.579	7.115	7.500	1.00	0.11
236	6.938	12.887	6.885	4.165	0.33	0.19
215	7.291	12.036	10.310	5.835	0.07	0.14
191	7.664	29.441	7.825	8.805	0.51	0.11
341	8.326	22.062	9.040	9.100	0.20	0.08
42	8.411	17.027	5.295	6.790	0.64	0.01
278	8.507	20.344	6.910	6.910	0.16	0.16
19	8.580	31.273	4.590	8.300	0.00	0.00
55	8.735	16.532	7.840	4.855	0.43	0.00
133	8.800	14.039	4.175	5.115	0.45	0.13
228	8.807	17.950	7.340	4.140	0.12	0.12
259	8.876	26.423	7.760	8.975	0.59	0.10
226	8.897	7.766	7.865	1.960	0.24	0.21
74	8.965	18.007	7.610	7.610	0.00	0.02
237	8.977	13.653	4.885	2.980	0.76	0.05
117	9.593	15.692	3.655	3.550	0.22	0.15
85	9.797	14.650	5.765	6.430	0.70	0.01
281	9.956	25.395	9.710	9.500	1.00	0.02
20	11.132	26.780	4.640	6.855	0.73	0.14
31	12.095	18.839	8.005	7.500	0.18	0.01
300	12.271	15.095	5.195	6.000	2.00	0.15
305	13.160	16.256	4.445	5.000	0.00	0.13
275	13.270	13.074	3.415	2.750	0.50	0.07
102	13.600	13.429	7.970	3.585	0.09	0.22
38	13.726	20.116	8.220	7.070	1.02	0.00
197	13.770	23.357	6.100	6.995	0.13	0.02
89	14.280	19.887	5.185	7.445	0.39	0.09
140	14.360	22.609	4.775	8.800	0.78	0.27
90	15.958	12.874	5.930	5.660	0.78	0.02
209	16.001	15.437	10.875	7.085	0.49	0.25
103	16.058	30.017	5.515	8.845	0.63	0.05
309	16.322	31.352	8.875	8.500	1.00	0.19
98	16.448	19.040	8.285	7.035	1.07	0.11
59	16.678	2.679	6.625	2.145	0.09	0.23
161	16.854	26.060	8.925	8.245	0.45	0.09
78	17.367	17.600	6.795	6.280	0.00	1.43
155	17.474	18.478	8.305	5.625	0.27	0.11
111	17.791	25.387	4.360	7.430	0.02	0.16
196	17.947	35.491	7.580	10.045	1.35	0.00
6	18.215	29.578	6.085	8.150	1.00	0.07
308	19.229	30.191	8.000	7.000	2.00	0.00
199	19.339	27.014	9.765	6.985	0.37	0.21
195	20.155	27.003	8.595	9.890	0.40	0.21
227	20.309	14.733	9.545	4.090	0.32	0.11
68	21.215	6.488	7.720	6.130	0.60	0.14
70	21.934	16.613	6.810	5.020	0.50	0.02
328	21.951	12.773	4.795	4:500	1.00	0.25
156	22.280	18.838	9.065	4.795	0.51	0.23
8	22.695	26.756	9.290	7.190	0.38	0.20
343	22.726	41.802	12.075	12.500	1.00	0.15
180	22.920	44.745	11.580	12.425	2.85	0.14
304	22.933	27.868	8.855	9.000	0.00	0.27
34	22.953	4.475	9.010	1.960	0.00	0.08
2	23.593	16.735	8.040	4.945	0.37	0.12

tree	OldArea	NewArea	OldW	NewW	NewFA	OldFA
21	25.235	11.557	7.090	2.295	0.29	0.22
33	25.581	19.953	9.000	7.340	1.34	0.00
27	27.641	20.592	9.640	5.930	0.30	0.00
206	28.176	31.715	8.955	14.060	0.04	0.21
205	28.206	10.451	7.330	4.145	0.25	0.18
207	28.935	21.181	5.915	8.705	0.71	0.17
43	29.501	23.193	11.730	9.105	0.11	0.02
331	30.235	25.546	6.865	7.000	0.00	0.07
84	31.143	26.854	7.090	7.490	0.08	0.02
81	32.522	21.188	7.620	6.530	0.40	0.06
291	34.839	17.418	5.905	5.750	1.50	0.19
273	35.601	22.000	9.385	10.200	0.84	0.27
288	37.347	20.901	8.305	8.250	1.50	0.01
220	38.688	6.729	11.090	3.535	0.51	0.20
317	38.978	32.803	10.000	10.025	0.71	0.00
289	39.235	24.675	6.500	6.520	0.06	0.20
174	42.130	25.399	11.300	6.505	0.99	0.00
246	43.193	17.346	8.655	4.775	0.41	0.19
172	45.228	25.851	10.405	7.515	0.37	0.25

Translation of a letter in Danish send to UVVU as an answer to the recommendation from AHC 25. Oct. 2002. The letter was included as a commentary to the recommendation in Danish from UVVU 3. Nov. 2003.

UVVU 20/11 2002
Danish Research Agency
Randersgade 60
2100 Copenhagen Ø

Concerning the "Recommendation to UVVU" from the ad hoc committee (AHC), Case no.: 612-00-0005

I accept the recommendation but have a few comments and proposals for corrections. In the appendix submitted are stated some further indications of constructions in APM1, APM2 and APMsmlg.

Summary and recommendation for ruling

Second section, line 7: I propose the following change: "Furthermore, the wording of the retraction was not correct and misleading and Jette Andersen, who was in charge of the measurements, was indirectly and unwarrantedly made responsible for the retraction. In the paper she was said to be person who measured all the leaves"

Fifth section concerning the conclusion of AHC: "these files - - - are at least in part constructed". In the judgment of mine the data files are not founded in any real measurements but should be considered as an attempt of reconstruction and adjustment to the values in Tabs.1, 2 and 3 in the paper. The values in these tables are probably also pure constructions. If UVVU is sharing this judgment the committee should consider whether "at least in part constructed" is the most correct designation. Translated to mathematics this designation could be expressed as 0 < procent < 100. The question is whether this is sufficiently precise?
I also observe that AHC made no explicit conclusion about the degree of credibility of Møller as a scientist. But perhaps UVVU will do that?

AHC talks about "major scientific and personal disagreements between Anders Pape Møller and - - Jørgen Rabøl". This statement is too inaccurate. Before I started up the case there were no personal disagreements between us. However, because of the very slow progress due to Møller, the University of Copenhagen and OIKOS I changed into a more personal style.
Furthermore, the scientific disagreements between us is mostly quantitative; I am less fixed on the hypothesis in consideration, and I am not a supporter of transformations, filtrations and constructions to a great extent.

Concerning my "disclosing the case in an e-mail to Jean Clobert". A more correct wording would be that "JR informs Jean Clobert about that UVVU considers a case against APM". The wording used leaves the impression that I delivered confidential documents from UVVU or referred directly from such documents. I never did that.

Short description of the case

Third section. It is not correct, that I started the case by attacking the paper. In the first and in the following mails to Møller I ask him sending the basic data-file. Nor do these mails contain "points of attack" for not having used the data of Jette. Furthermore, I do not necessarily disagree with Møller about a possible connection between the degree of fluctuating asymmetry and the degree of herbivory/"herbivory". But as mentioned above in general I am not confident with the analytical procedures of Møller, and as very

apparent in the paper there are some points which are erroneous and/or incredible. A more instructive wording of section three could be: “The case is initiated in November 1999 when associate professor Jørgen Rabøl (JR) in a mail ask APM for sending the basic data of the paper. The reason is that the paper contains some apparent errors and improbabilities. At the same time JR is asking his head of the institute, then the office of the faculty and finally the office of the head of the University of Copenhagen for permission to open up and use the file with the original data. This file is still at the institute at the computer of Jette Andersen. APM sends no data, and after a half year of hesitation the University of Copenhagen accepts that JR makes use of the data file. In May 2000 JR and Jette Andersen forward an “Opinion” contribution to OIKOS about the APM and de Lope paper”.

Fifth section, line 5 should be changed to “ - - wording of the retraction, which he feels is **incorrect and misleading as well** as grossly insulting to Jette Andersen”

Section eight. In the version in English “Recommendation to UVVU” the comments from Malmer - forwarded in Swedish – should be translated to English. Unfortunately, it is not quite clear whether Malmer with the wordings “Ärendet kan derför så som det afslutats - - -, snarere tvärtom” refers to Møller or to himself/OIKOS. However, almost certainly he must (mostly) refer to Møller and in this way ends up with that kind of absurd logic which I predicted in the complaint to UVVU; Møller appears as a trustworthy and honest scientist, because he retracts the paper. In the probably rather clumsy translation of mine the wording of Malmer becomes “By retracting the paper professor Pape Møller and his co-author admitted that they no longer stand for the content of the paper mentioned. In my oponion the case as it developed and ended cannot be considered as dishonesty in a scientific context, quite contrary”. A Swedish professor residing in Denmark was contacted with reference to the correct translation to Danish in particular focusing at the word “Ärendet”. Linguistically it corresponds to the Danish “ærinde”, but in the present connection it means and should be translated to “sagen(s forløb)”.

Assessment of the paper

I have no comments to the three points except that in 2. line 2 the wording should be “the control group **of the new leaves** in Table 2” (table 1 refers to **old** leaves and table 2 to **new** leaves; therefore the latter cannot be a sub-sample of the first).

Comparisons of the various data sets with statistical assessments

In general, we should expect 1) high positive correlations between pair-wise measurements of length/area and width of the leaves. Furthermore, 2) the coefficient of variation (CV) for area should be significantly higher than the CV of length or width (area = length times width times “noise”).

If 1) no significant positive correlations are found between length/area and width this is a signal of construction.

If 2) significant positive correlations are found between length/area and width this is not in itself a proof that the pair-wise measurements presented are measured values; they could be adaptations (the constructor **knows** about the significant positive correlations in the real world).

If 3) significant positive correlations are found between values which can be shown to be or are inferred as constructed values of length/area and width this is a very strong indication on a conscious data manipulation.

If 4) CV on area is less or the same as CV on width on the same leaves this is a strong indication that area not is area but length (Møller maintains, that area and not length is measured, but that by a mistake the area measure was reduced by a factor of 10).

In the data-files delivered by Møller (see appendix) are very clear traces of both 1), 2), 3) and 4). Of course, 2) in itself is not a problem for Møller unless the positive correlation coefficients appear too small;

and in fact they do! Taken together with the comments of AHU to APM1 and APM2 **the conclusion should be that the Møller files totally or at least to a high extent are constructed and based in fictive values.**

As one of the possibilities to make a judgement of the credibility of the Møller files I made some calculations on the data in the file of Jette Andersen a survey of which is presented in Table B of the "Opinion" contribution submitted UVVU.

I also collected two samples of leaves, Alder (n = 51) and Oak (n = 43) in order to calculate the correlations between length, width and area, and CV for the three variables.

In the data of Jette Andersen the correlation coefficients between the **means** (for normally five leaves per tree) of length and width is in the order of magnitude of 0.90, and CV on width in all 6 constellations of treatment 1, 2 and 3 and old and new leaves is insignificantly larger than CV on length; **clearly JA measured length and not area.**

In the samples of mine the correlation coefficients between length and width (single leaves) in three series are between 0.85 and 0.93, whereas the correlation coefficient between length and area and width and area were 0.96 and 0.94, respectively, for the much winding oak leaves. Compared with the data of Jette CV of both length and width are about the same (insignificantly smaller); there is no significant difference between CV of length and width, and CV of area is significantly higher.

Therefore, the measurements of Jette appear reliable – in contrast to the values in the Møller files. If considered important UVVU is welcome to ask for the measurements and calculations of mine.

Concluding summary of AHC`s assessments

As evident from above and the initial summary I conclude, that the characteristic "at least partly constructed" about the Møller files is an underrating, i.e. "totally or heavily constructed" would be a more appropriate designation.

Sincerely Yours

Jørgen Rabøl
Olesvej 12
2830 Virum

Appendix

APM1

Area and width have a positiv and significant correlation in case of 7 series taken out randomly (5 old and 2 new) for sample sizes between 27 and 35. The correlation coefficients were between 0.45 and 0.86 with a mean of 0.69. Compared with the measurements of mine and Jette these coefficients appear rather small, and it is difficult to decide whether real pair-wise measurements are involved, or whether the data are manipulated; of course Møller knows, that the coupling should be positive (however, in APM2 (see below) it is not). I also calculated the correlation between old area and old width in APM1 for those values of old area which (as demonstrated by AHC) were found as doubles in APM2. I only investigated the "control" group and here the correlation coefficient was not very high 0.30 (n = 25, P > 0.05). It therefore looks like a manipulation.

I also found that the 75 values of old **width** in APM1 are not the same values as old width in APM2 for the 75 doubles of old **area** in APM1 and APM2; in all old width values in APM1 the last number is 0 or 5,

whereas in APM2 the last number could be everything between 0 and 9. Means and standard errors of old width are also very different (7.83 (0.38) in APM1 and 10.96 (1.37) in APM2).

The many rounded values of new width – in particular the last 64 – look very artificial. A closer inspection also reveals peculiar new area values – again in particular the last 64. Many of the values repeat themselves (e.g. 15.095, 19.740, 29.029, 20.901). These repeated values also come in runs and must be constructed in some way. I calculated the correlation coefficient between new area and new width in case of these 64 last pair-wise values. Two sub-samples were considered. In the first both values were based in a least two doubles. The sample size was 41 and r = 0.69 (t = 6), and for the remaining 23 pairs r was even higher (0.89). Such very significant positive correlations between values which are clearly based in constructions show that Møller coupled the values for that purpose to obtain positive correlations.

Concerning **CV** in APM1. AHC compared the values shown in **table 1 of the paper** with **their calculations based in APM1**. It appears that CV of area in the paper is in the same order of magnitude – in fact even smaller – than CV of width (0.50 contra 0.58 in old leaves, and 0.61 contra 0.72 in new leaves). **This is a clear signal, that area in fact is length**. Apparently in APM1 the **variation has been adjusted down** for width in both old and new leaves in order to produce more reasonable CV´s. Somewhat surprisingly CV of area also moves down from 0.61 to 0.39 in new leaves.

APM2

In this data file the correlation between area and width is extremely low. I calculated all 6 correlation coefficients between area and width in old/new and complete/partial/control (the sample size was 25 in all series); the mean was 0.17, standard deviation 0.15, and the mean range between 0.03 and 0.39. In conclusion, **area and width in APM2 are not positively correlated** (at least not significantly). They should be; therefore **the data in the file can not be true pair-wise measurements of area and width** – or at least only so to a small extent.

According to AHC there are no differences in CV for the three treatments in the new leaves in the data of the paper and in APM2. **As seen CV is a little higher in case of width compared with area. Certainly, this can not be so**; seemingly Møller overlooked adjusting down one of the variables or adjusting up the other one.

Also another peculiarity demonstrates the extensive use of manipulations and constructions. CV of area in APM2 is about 0.27 for all three categories taken together (n = 75). CV of new area in APM1 is 0.39 (n = 343). As the 75 values from APM2 are included in APM1 CV of the remaining values (343 – 75 = 268) has to be higher than 0.39. I never calculated this CV which perhaps is – say - 0.41. Applying a F-test F is found to be about 2.3 and with 267,74 degrees of freedom the probability for coincidence will be far below 1% (P = 0.01 corresponds to F = about 1.5). Thus the lengths/areas in APM2 is not a random sub-sample of APM1; they should be (and the treatments in complete and partial should if anything lead to a little higher variation in APM2). **The conclusion should be that from the point of view of the CV´s in APM1 and APM2 clear signs of adjustments or constructions are found.**

The old FA values are very much too small and appear artificial in comparison with new FA. The values shift with a constant difference on a little more than 0.015. On the basis of the last value (0.410) this constant could be estimated to about 0.0151852. The question is what the values shown are representing, but by Møller they are clearly designated old FA Width. Perhaps the values constitute intermediary numbers in the Møller-reconstructions of Old FA. Perhaps 0.0151852 is Pape`s constant in one of the Møllerian universes. Perhaps he is just teasing UVVU.

Concerning the second half of table 2 in the paper

AHC concludes that there may "be some uncertainty as how this part of the table has been calculated" but this uncertainty must go alone on whether "Difference in size and asymmetry of old and new leaves" should be 1) new minus old or 2) old minus new. On basis of the values in APM2 one may calculate those mean-differences with corresponding standard errors which should have been depicted in the table. If as an

example we focus on **control** old area minus new **area** a mean of 3.143 (new area corrected down with 10) and a standard error of 2.549. These values are very far from Møllers 0.85 and 1.46, respectively. I also calculated on **complete** old **width** minus new width. In this case the mean width was –0.008 and the standard error 1.524. Also in this case there is not much resemblance to the values of Møller, 0.50 (0.58). **Therefore Møller never calculated the lower part of table 2 in the paper on the basis of the values in APM2.**

APMsmlg

AHC concludes that "These data are of minor interest". However, this statement may be questioned.

Clearly the values intend to be measurements of widths from **single leaves**; they could in no way be mean-widths per tree. The comparison seems to be like the one told about in the lower part of p.247/upper part of p.248 in Møller & de Lope (1998). What is given here is a percentage measurement error (PME) on 0.7% for widths on leaves; i.e. at this stage Jette Andersen and Møller have very much the same measurements on the same leaves. Now I never investigated how PME is defined, but if it is the numerical sum of the deviations divided by the sum of the means for the corresponding measures (i.e. a sort of parallel to FA) then PME between Møller and his student is about 0.09%. The correlation coefficient calculated between pair-wise values of Møller and his student seems to be of another world (0.999999083) because as described by Jette Andersen the leaves are stiff, "bulging" and thorny and very often it is something of a job to straighten the leaves and take the decision where to measure the largest left and right widths (normally these two variables are not just opposite to each other in perpendicular relation to the middle rib of the leave). Apparently, Møller and his student are in telepathic connection with each other whereas the measurements of Jette Andersen often are so divergent that no one can believe, that her measurements originate from the same leaves – irrespective how incompetent or drunken she according to Møller possibly was in the act of measuring.

Anyway, Møller has a problem. All the values of Jette are found in APM1 in "New Width" just in the same way (apart from certain repetitions of in particular some very rounded values as 7.000, 7.500 and 9.000) as demonstrated by AHC in case of 75 values of "old area" in APM2 also found in APM1. All the 25 values of Jette can be found in APM1, and 19 only once (I counted without help from the computer, so perhaps the real number is a little less). Furthermore, the values of Jette may often be found as "runs" in APM1 (e.g. two "runs" in 6 and one in 7). This fact also shows that the values of Jette come from APM1. This is afflicting Møller strongly, as the APM1 values are intending to show **mean-values per tree** and not measurements for single leaves.

Therefore **APMsmlg** is also important, because this table **very clearly demonstrates the unlimited use by Møller of fictive and manipulated values.**

The ad hoc committee's comments on remarks dated 20 November 2002 from Associate professor Jørgen Rabøl.

In his letter of 20 November, JR has submitted 3 pages of comments and 3 pages of appendix to the recommendation by AHU.

The committee has confined itself to commenting on the points that need a confirmation or denial. However, it must be mentioned that the committee does not find it necessary to go into the discussion of the degree of data manufacturing, as it is clear from the argumentation of the recommendation that it is not a matter of an insignificant extent For that reason we have not found it necessary either to evaluate the calculations from the appendices in JR's remarks.

JR's breach of the request for confidentiality consists in his passing on the information that there was a correspondence between UVVU and APM, but it is correct that apart from that he has not passed on information from UVVU that he did not have beforehand.

It is correct that line 3, item 2 under "Review of the paper" concerns the control group as regards NEW leaves and that has the effect that it must be a question of other leaves than the old leaves in Table 1. However, as the number of leaves still is different in the two groups, it does not change the evaluation.

Flakkebjerg 2003-03-10

The following letter - which is part of the decision - was translated from Danish

UVVU 15/3 2003
Danish Research Agency
Randersgade 60
2100 Copenhagen Ø

Concerning **the ad hoc committee`s comments on remarks dated 20 November 2003 from Associate professor Jørgen Rabøl.**

If the demonstrations of mine of further constructions in the tables sent by Møller are not included, my only comment should be that UVVU includes the tables as part of and documentation for its decision.

sincerely yours

Jørgen Rabøl
Olesvej 12
2830 Virum

The following text is a letter from Anders Pape Møller to UVVU

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31st January 2003

The Danish Committees on Scientific Dishonesty Forskningsstyrelsen Randersgade 60' DK2100 Copenhagen Ø

Thank you for your letter dated 25th October 2002, which I received today. I have the following comments to the recommendations:

1. The files submitted are the only ones at my disposal. The arguments by AHU are based on probability arguments. To those who may not work with probabilities on a daily basis it is important to remember that events with very low probabilities do happen. Chernobyl did blow up despite the fact that the probability of it doing so was infinitessimally small.

2. It is interesting to note that AHU recognized that I have lodged a complaint against Jørgen Rabøl at UVVU. The UVVU still has to recognize that and pursue the case.

3. Nowhere does the AHU describe how it attributed its findings to me. I was not the sole author of the paper, and even more people were engaged in collecting and entering the data. I suggest that AHU argues for attributing their findings to my person, or, alternatively, that they remove any specific association between their findings and my person.

4. The file APMsmlg is most important for the whole story, and it remains unknown on which basis AHU decided not to consider this file. The measurements made independently by one of my students unaware of the previous measurements and the importance of the study clearly show that the measurements by Jette Andersen cannot be replicated. This is of importance for evaluating the complaint. Nowhere has AHU argued why the inability of independent persons to replicate measurements by a lab technician working at a university department cannot be considered important for a case of accusations of scientific dishonesty based on the data collected by this specific lab technician. The original material is still available and can be re-measured at any time.

I expect these points to be considered by AHU and UVVU.

Yours sincerely,

Anders Pape Møller

The ad hoc committee's comments on remarks in letter dated 31 January 2003 from Professor, Phd. Anders Pape Møller.

In his letter of 31 January 2003, APM has submitted four (numbered) comments to the recommendation by AHU.

Concerning APM's item 1:

We read the comment as a reaction to our conclusion: The submitted data files from the complainee, Profesor PhD Anders Pape Møller, are rough working files and not raw data.
Evaluations of and comparisons between these files show that they are - at least in part - fabricated and cannot be based on authentic measurements. This conclusion is based on clearly strange coincidences between the different parts of the submitted files. This observation is supported by a calculation of probability, which shows that these coincidences definitely cannot reasonably be due to chance.

Concerning APM's item 2: Does not require any comments from AHU.

Concerning APM's item 3: APM is (main) author of the paper and for that reason responsible for what is written. Not the only person responsible, but AHU has dealt with a complaint lodged solely against APM. Empirical work often involves several persons, but the scientific responsibility remains with those who publish the observations as part of a scientific work. The documentation of the published observations lie among other things in the original measurements of the studied material, and there is no explanation as to why APM cannot produce an authentic data material that agrees with the results of the paper.

Concerning APM's item 4:
AHU still considers that the data material in the file APMsmlg is unimportant, as it does not concern the comparison between the data in the paper and the values that may lie behind.

Flakkebjerg 2003-03-10