

IN MEMORIAM

Excerpt of memorial speech to Professor Dr. Med. Vet. Ottar Dybing — given by Rolf Svenkerud on the occasion of the meeting of the Mathematic and Natural Sciences Class of the Norwegian Academy of Science on May 26, 1972.

Professor Ottar Dybing died on the 26th of January 1972 at the age of 64. Thus an unusually full and active life had found its end. His profound professional insight and his fine personality had led him to the forefront in so many fields.

Ottar Dybing was born in Stavanger on August 11, 1907.

As his profession, he chose veterinary medicine. At that time, however, it was not possible to study veterinary medicine in Norway, and he therefore entered the Royal Veterinary and Agricultural College in Copenhagen. He graduated in 1933 with a first class degree. After a few months in general practice, he felt the need to specialize. He returned to Copenhagen and completed a special course with pathological anatomy as the main subject, and with chemistry and general pathology as secondary subjects. Here too he obtained a first, and was immediately afterwards appointed as a scientific research assistant at the Royal Veterinary and Agricultural College's department of obstetrics. He remained there for just one year, but it was a year which, in many ways, gave him much. He was able to work in a stimulating research environment and made many important contacts.

In 1936, Ottar Dybing was appointed amanuensis at the newly founded Veterinary College of Norway with the Department of Pharmacology at the Royal Frederiks University as his provisional place of work. He had thus entered the scientific field to which he was to devote his subsequent working life. However, it is interesting to notice that several of his later scientific papers nevertheless have a strong connection with the subjects in which

he first specialized, namely pathological anatomy and reproduction.

Before taking up his appointment in Oslo, he undertook a study visit to veterinary institutions in Germany, the longest stay being with Professor R. Völker at the Department of Pharmacology at the Hannover Veterinary College. Here he studied the anaesthetic effect of combined eunarcon-ether anaesthesia, and it seems that it was during this period that his interest for anaesthetic drugs was awakened.

In 1939, he undertook another study visit, this time to pharmacological institutes in Germany, Holland and England. A stay with Professor L. Lendle in Münster was especially useful. At this laboratory Dybing received training in modern pharmacological methods and research techniques. Together with H. G. Holzhausen he published a very nice piece of work from this stay: "Über die Bindung von Digitalisstoffen an die Eiweissfraktionen von Herz- und Skelettmuskel".

In 1942, Ottar Dybing was appointed assistant professor in pharmacology and toxicology and thus became head of the newly established department for these subjects at the Veterinary College of Norway. In 1950, he was appointed professor.

The building up of a new department is a big and demanding task, one which Ottar Dybing carried out in a brilliant manner. His department soon took a central place in pharmacological and toxicological research, and it became a place at which many studied in order to specialize.

Ottar Dybing's research activities were so comprehensive that it is impossible to give a complete review of them on this occasion. I shall just briefly touch on certain main areas within which he made valuable contributions. In his early papers he mostly discussed questions within the realm of anaesthesia and chemical and biological pregnancy diagnosis. I have already mentioned the investigations concerning the anaesthetic effect of a eunarcon-ether combination. Later came papers on the anaesthetic effect of deutoalcohol and deutoether, and on ether concentrations in various organs during ether anaesthesia.

In 1941, the degree of Doctor of Veterinary Medicine was conferred on Ottar Dybing at the Royal Veterinary and Agricultural College for his work entitled "Zur Kenntnis der Chloralosenarkose". This is a detailed study concerning chloralose and chloral hydrate, used in combination with ether.

Ottar Dybing at an early stage became interested in toxicological subjects, to begin with mostly toxic effects of drugs. Later his interests changed more in the direction of pesticides such as rodenticides, insecticides, and herbicides, and in addition the possible toxicological effects of food additives. He published several papers on these subjects, and a number of his collaborators have also been concerned with the problems which are raised by the use of such substances. Thus Ottar Dybing had entered the field which we call "Protection of the Environment", and here he maintained a central position right up to the time of his death. An impression as to just how much importance he attached to this work can be obtained by reading his application for sabbatical leave for the year 1957—58 to be used for studies in the United States. He writes: "Toxicological investigations play a central part in the research programme at our department and I am sure that we, to an ever increasing degree, must concentrate our efforts on the many toxicological problems which we will be confronted with in the future. This concerns for example toxicological investigations on insecticides and other plant protection chemicals, colours and preservatives etc. which are used as food additives, diverse agricultural chemicals which can cause poisoning of domestic animals, together with poisonous plants, to name but a few of the many areas for research within this large field."

On Ottar Dybing's initiative, the Scandinavian Toxicological Committee concerning plant protection chemicals and other pesticides was set up in 1956. He was vice chairman, and later chairman of the Expert Committee on Toxicology, now the Pesticides Board of the Ministry of Agriculture.

It was a great loss for our work for the protection of the environment that Ottar Dybing was taken from us so prematurely. His great expertise on pesticides and their toxicology was very valuable, as was the research he and his colleagues undertook in order to plot the occurrence of insecticides in our environment.

Because of his distinctive formal characteristics, it was natural that the question of standardization of biological products and biological methods should come to occupy Ottar Dybing. Thus, he was an especially valuable member of a number of committees and commissions such as the Scandinavian Biological Standards Committee, the Permanent Pharmacopoeia Commission, the Scandinavian Pharmacopoeia Boards Veterinary Com-

mittee, of which he was chairman from 1957, and the Scandinavian Committee on Methods of Analysis for Foods.

Ottar Dybing was also a member of the Norwegian National Committee for UNESCO from 1961, the Agricultural Research Council of Norway 1956—63, and the Norwegian Research Council for Science and the Humanities 1956—63. He was a member of this academy* from 1963, and was elected chairman of its Mathematic and Natural Sciences Class in 1970.

Ottar Dybing carried out great work as editor of scientific journals. He was for many years editor of the Journal of the Norwegian Veterinary Association, and national editor of both the Scandinavian Journal of Veterinary Medicine (Nordisk Veterinærmedicin) and Acta Veterinaria Scandinavica.

For his great services Ottar Dybing was honoured by being made a Knight 1st class of the Royal Norwegian Order of St. Olav, and Knight 1st class of Finland's Vita Ros Order. The senate of the Veterinary College of Hannover recently decided to confer an honorary doctorate on him. Ottar Dybing did not have the chance to be gratified by this honour accorded him. He passed away before the announcement was made. When the Hannover College heard of his death, the senate resolved that the doctorate should be conferred posthumously.

Ottar Dybing was unassuming, but firm. He was unusually well endowed, greatly knowledgeable and displayed a distinctively objective attitude to relevant problems. We will remember him with gratitude for what he was and for what he gave.

— *Requiescat* —

* Norwegian Academy of Science.

BIBLIOGRAPHY

1. Ovariesvulster hos husdyrene. Norsk vet.-T. 1935, nr. 4, 5, 6 (47 s.).
2. Die Reaktion zwischen Formaldehyd und Äthylamin. Den kgl. Veterinær- og Landbohøjskole. Årbog 1936, 49—59.
3. Tumor ovarii og seksualhormoner. Maanedsskr. Dyrlæg., 1935—36, 47, 641—647.
4. Orienterende undersøgelser over surhedsgraden i hoppens genital-kanal. Maanedsskr. Dyrlæg., 1935—36, 47, 561—569.
5. Et tilfælde af endokarditis hos et føl. Maanedsskr. Dyrlæg., 1936, 48, 113—119.
6. Narkotische Breite der kombinierten Eunarcon-Äthernarkose. Arch. Tierheilkunde 1936, 70, 393—403.
7. (Sm. m. K. Hansen) Den hormonale drektighetsdiagnose hos hoppen. Norsk vet.-T. 1937, nr. 4 (5 s.).
8. Internasjonale standardpreparater og internasjonale enheter. Norsk vet.-T. 1938, nr. 7 (8 s.).
9. Widmarks mikrometode på bestemmelsen av etyleter i blod. Norsk Mag. Lægevid. 1938, 1105—1110.
10. (Sm. m. K. Hansen) De hormonale drektighetsreaksjoner hos hopper. Aschheim-Zondeks, Friedmans og Cubonis reaksjoner. Norsk vet.-T. 1938, nr. 12 (8 s.).
11. (Sm. m. K. Hansen) Quantitative Mikrobestimmung von Deuteroalkohol. Biochem. Zeitschr. 1938, 298, 110—114.
12. (Sm. m. K. Hansen) Die narkotische Stärke des Deutero-Alkohols im Vergleich mit Äthylalkohol. Arch. exp. Path. Pharmak. 1938, 191, 275—280.
13. (Sm. m. G. Guldberg & K. Hansen) Pathologisch-anatomische Veränderungen bei subakuter Deuteriumoxydvergiftung von Mäusen. Klin. Wschr. 1938, 1585—1587.
14. (Sm. m. K. Hansen) Quantitative Mikrobestimmung von Deutero-Äthyläther, $C_2D_5CC_2D_5$. Biochem. Zeitschr. 1939, 301, 225—228.
15. (Sm. m. K. Hansen) Einige orientierende Versuche über die narkotische Stärke von Deutero-Äthyläther ($C_2D_5CC_2D_5$) im Vergleich mit Äthyläther. Arch. exp. Path. Pharmak. 1939, 192, 600—603.
16. (Sm. m. K. Hansen & G. Rasch) Om visse feilkilder ved Widmarks metode til bestemmelse av alkohol i blod. Tidsskr. kjemi og bergvesen 1939, 114—117.
17. (Sm. m. H. G. Holzhausen) Über die Bindung von Digitalisstoffen an die Eiweissfraktionen von Herz- und Skelettmuskel. Arch. exp. Path. Pharmak. 1940, 194, 248—259.

18. (Sm. m. E. Wulff Rasmussen) Die Resorption des Äthylalkohols aus dem Magen und Darm der Ratte. *Biochem. Zeitschr.* 1940, 306, 337—342.
19. Nyere undersøkelser over digitalisstoffenes biokjemi. *Norsk vet.-T.* 1941, 81—93.
20. Zur Kenntnis der Chloralosenarkose. Thesis. Oslo 1941.
21. (Sm. m. F. Dybing) Der Antagonismus Chloralose-Cardiazol. *Arch. exp. Path. Pharmacol.* 1942, 199, 435—437.
22. (Sm. m. F. Dybing) Påvisning av stryknin ved strykninforgiftning hos hund. *Norsk vet.-T.* 1945.
23. (Sm. m. F. Dybing) Ether concentration in blood and brain in the early stages of ether narcosis. *Acta pharmacol. (Kbh.)* 1945, 1, 270.
24. (Sm. m. F. Dybing) Alkoholvirkningen hos ku og hest belyst ved analyser av blodalkoholkonsentrasjonen. *Norsk vet.-T.* 1946, 239.
25. (Sm. m. F. Dybing) Den toksiske virkning av tetrakloretylen i oljeopløsning. *Norsk Vet.-T.* 1946, 59.
26. (Sm. m. F. Dybing) The toxic effect of tetrachlormethane and tetrachlorethylene in oily solution. *Acta pharmacol. (Kbh.)* 1946, 2, 223.
27. Nyere lægemidler i veterinærmedisinen. *Medd. f. Norsk farmaceutisk selskap* 1946, nr. 11—12.
28. Rottegifter, med spesielt hensyn til den betydning de har for veterinærer. *Norsk Vet. Med.* 1947, 165.
29. Det norske standardpreparat for *Folium digitalis*. *Medd. f. Norsk farmaceutisk selskap* 1947, 167.
30. (Sm. m. F. Dybing) The susceptibility to digitalis of male and female (pregnant and non-pregnant) guinea-pigs. *Acta pharmacol. (Kbh.)* 1947, 3, 189.
31. (Sm. m. F. Dybing) Ether concentration in brain, blood and muscles during etherelimination. *Acta pharmacol. (Kbh.)* 1948, 4, 164.
32. Effect of thyroid on toxicity of arsenobenzenes. *Acta pharmacol. (Kbh.)* 1948, 4, 333.
33. The vesicula seminalis and the diagnosis of pregnancy in mares. XIVth International veterinary congress 1949.
34. Eksperimentelle undersøkelser over kloralhydrat i kombinasjon med magnesiumsulfat og pentymalnatrium. *Nord. Vet.-Med.* 1949, 1, 403.
35. Vesicula seminalis testen og drektighetsdiagnosen hos hopper. *Nord. Vet.-Med.* 1949, 1, 982.
36. Comparative investigations on curare and myanesin in combination with hypnotics. *Ann. med. exp. Biol Fenn.* 1950, 28.
37. Rottegifter. *Norges apotekerforenings tidsskr.* nr. 4, 1051.
38. (Sm. m. F. Dybing & K. B. Jensen) Toxicity and toxicological chemistry of aconitine and lappaconitine. *Acta pharmacol. (Kbh.)* 1951, 7, 337.
39. Mebumal-oppløsning til injeksjon. *Injectabile mebumali.* *Nord. Vet.-Med.* 1952, 4, 494.

40. (Sm. m. H. Stormorken) The passage of ether from mother to foetus. *Acta pharmacol. (Kbh.)* 1952, 8, 271.
41. Aconitum-alkaloidenes toksikologi. VI Nordiske veterinærmøte 1951.
42. Stoffe med anti-kolinesterasevirkning i farmakologi og toksikologi. *Medd. f. Norsk farmaceutisk selskap* 1952, 85.
43. (Sm. m. F. Dybing & H. Stormorken) The toxicity of red squill and scillireside to rats and mice. *Acta pharmacol. (Kbh.)* 1952, 8, 391.
44. Anestesi hos husdyr. *Nord. Vet. Med.* 1953, 5, 933.
45. Die Toxizität und Herzwirkung des Scillirosids. *Arch. exper. Path. Pharmak.* 1953, 220, 207.
46. Rusgifter. *Hippi Tidend* 1953, nr. 1, 5.
47. Acetylkolin i farmakologien. *Medlemsbl. f. Den norske veterinærforening* 1953, nr. 2, 41.
48. Rottegifter, med spesielt hensyn til forgiftningsfaren. *Skadedyrkampen* 1953, nr. 1, 7.
49. Nyere insekticider, med spesielt hensyn til deres veterinær-toksikologiske betydning. *Nord. Vet. Med.* 1954, 6, 567.
50. (Sm. m. H. Stormorken & J. L. Flatla) Toksikologiske undersøkelser over natriumnitritt. Rapport til Fiskeridirektoratets kjemiske tekniske forskningsinstitut. 1954. Særtrykk av Fiskeridirektoratets skrifter. Serie Teknologiske undersøkelser. *Vol. III*, nr. 4.
51. (Sm. m. F. Dybing & K. B. Jensen) Detection of scilliroside in organic material. *Acta pharmacol. (Kbh.)* 1954, 10, 93—100.
52. Anticholinesterase effect of chloral hydrate. American society for pharmacology and experimental therapeutics. Fall meeting. New Haven, Conn. September 7—9, 1953. *J. pharmacol.* 1954, 110, 15.
53. Warfarin-rottegift. *Medlemsbl. f. Den norske veterinærforening* 1954, 323.
54. Penicillin og andre antibiotika, farmakologiske synspunkter. Beretning VII Nordiske veterinærmøte, Oslo 1954, 589—598.
55. Kampen mot DDT-resistente fluer. *Medlemsbl. f. Den norske veterinærforening* 1955, 63.
56. (Sm. m. F. Dybing) Anticholinesterase and Anticurare Effects of Chloral Hydrate and Trichloroethanol. *Acta pharmacol. (Kbh.)* 1955, 11, 398.
57. (Sm. m. L. V. Loe) Fluoride Poisoning and Cholinesterase in Rats. *Acta pharmacol. (Kbh.)* 1956, 12, 364.
58. Forgiftningsfaren hos mennesker ved anvendelsen av insektdrepende midler, særlig DDT. *Nordisk hygienisk tidsskr.* 1956, 37, 242.
59. (Sm. m. A. Hjelle) Kolinesteraseaktiviteten i blod hos storfe. *Nord. Vet. Med.* 1957, 9, 41.
60. Periphere neuromuskuläre Wirkungen von Narkotika. *Dtsch. tierärztl. Wschr.* 1957, 236.
61. (Sm. m. K. Skovlund) Ether in fatty tissue during ether absorption and elimination. *Acta pharmacol. (Kbh.)* 1957, 13, 252.

62. (Sm. m. E. Søggen) Hyperglycaemia in rats after diazinon and other cholinesterase inhibitors. *Acta pharmacol. (Kbh.)* 1958, 14, 231.
63. (Sm. m. S. Erichsen & A. Hjelle) Forgiftning med dikesvineblom, *Senecio aquaticus*. VIII Nordiska veterinärmötet. Sektion B, Rapp. 18, 1958.
64. (Sm. m. A. Hjelle) Den toksiske virkning av dikesvineblom, *Senecio aquaticus*. *Nord. Vet. Med.* 1958, 10, 719.
65. Insekticidenes toksikologi. *Nord. Vet. Med.* 1959, 6, 259.
66. (Sm. m. S. Erichsen) Liver changes in rats after administration of *Senecio aquaticus*. *Acta path. et microbiol. Scand.* 1959, 47, 1—8.
67. (Sm. m. E. Søggen) Effect of sodium fluoride on the toxicity of red squill. *Acta pharmacol. (Kbh.)* 1960, 16, 242—244.
68. Styrkebestemmelse av hypofysebaklapphormoner. Særtrykk av „Kommentarer til Pharmacopoea Nordica Vol. IV“, Apotekar-societetet, Stockholm 1960.
69. Giftigheten av insekticider og andre plantevernmidler. *Eripainos Suomen Eläinlääkäri-lehti*, 1961, 67, 7. *Finsk vet.-tidsskr. (Medl.bl. f. Den finska veterinärförening)*.
70. Tilsetningsmidler til husdyrfor. *Eripainos Suomen Eläinlääkäri-lehti*, 1961, 66, 671—686.
71. Aminotriazol og cranberries. Carcinogene stoffer i næringsmidler. *Medlemsbl. f. Den norske veterinærforening* 1960, 12, 373—375.
72. (Sm. m. H. O. Friestad) Lindanets akutte toksisitet. Et tilfelle av lindanforgiftning hos ku. *Nord. Vet. Med.* 1961, 13, 425—432.
73. Antibiotika som tilsetningsmidler til husdyrfor. *Medlemsbl. f. Den norske veterinærforening* 1961, nr. 7.
74. Giftigheten av plantevernmidler og farene ved bruken. *Yrkesfrukt-dyrkning* 1961 febr., nr. 2, 18—23.
75. Nyere insekticider. *Tidsskr. for kjemi, bergvesen og metallurgi* 1961, 7, 160—164.
76. Plantevernmidler. Restkonsentrasjoner — sprøytefrister. *Landbru-kets årbok. Jordbruk og hagebruk.* 1963.
77. Forgiftningsfaren ved bruken av plantevernmidler. *Norsk land- bruk* 1963, nr. 11, 16—17.
78. Artsvariasjoner vedrørende toksisiteten av insekticider. *Arch. Pharm. Chem.* 1963, 70, 859—864.
79. Toksikologisk forskning i farmakologien. *Medlemsbl. f. Den nor-ske veterinærforening* 1963. *Spesialnr.*
80. Variations of insecticide toxicity in different species. Symposium on “Pharmacological species specificities” held by the Scandi-navian Society of Pharmacology. *Zeitschr. Versuchstierk.* 4 (1964), 149—156.
81. Toksiske substanser i kraftfor. *Medlemsbl. f. Den norske veteri-nærforening* 1965, nr. 3.
82. Den toksikologiske vurdering av persistente insekticider av grup-pen organiske klorforbindelser, spesielt aldrin og dieldrin. *Med- lemsbl. f. Den norske veterinærforening* 1965, nr. 12, 433—438.

83. (Sm. m. J. Sakshaug) Utredning om beising av såvarer med kvikk-sølvholdige beisemidler og farer i forbindelse med den. Medlemsbl. f. Den norske veterinærforening 1967, nr. 19, 8—20.
84. Biocidene og våre husdyr. X. Nordiska veterinärmötet, Stockholm 1966, 50—63.
85. (Sm. m. E. Søggen) *Pharmaconomia veterinaria Norvegica*, 1968.
86. Pesticidenes kliniske toksisitet og kontrollen med pesticidrester. Medlemsbl. f. Den norske veterinærforening 1968, nr. 7—8, 337—341.
87. Bruk av gift i landbruket. Foredrag i Norsk rikskringkasting den 6. mai 1969. Medlemsbl. f. Den norske veterinærforening 1969, 21, 282—284.
88. Leverens mikrosomenzymer og induksjon av enzymaktiviteten fremkalt av farmaka og gifter. Foredrag i Veterinærmedisinsk selskap 20. mai 1969. Medlemsbl. f. Den norske veterinærforening 1969, 21, 517—524.
89. Verunreiniging der Umgebung mit Chlorinsektiziden. Zbl. Vet.-Med. 1970, A, 17, 252—256.
90. Miljøvern — toksikologi. Miljøkunnskap. Norges tekniske høgskole, høsten 1969. 1970, s. 37—50.
91. Restkonsentrasjoner av tilsetningsstoffer, legemidler og pesticider. Nordisk jordbrugs-forskning. 1970, nr. 1. 52, 31—35.
92. Klorpesticider i fisk og andre marine organismer. Beretning XI Nordiske veterinærkongress, Bergen 1970, 188—191.
93. Pseudokolinesteraser. Norsk vet.-T. 1970, 82, 485—491.
94. Herbicider i skogbruket — toksikologiske aspekter. Norsk vet.-T. 1970, 82, 701—704.
95. DDT-forbud i Naturvernåret 1970. Norsk vet.-T. 1970, 82, 186—188.
96. Toksikologiske aspekter. (Nytte- og skadevirkninger av de kjemiske bekjempelsesmidler.) Norsk vet.-T. 1970, 82, 20—25.
97. Noen toksikologiske aspekter vedrørende pesticider m. m. Forurensning og biologisk miljøvern. 1971, s. 119—136.
98. (Sm. m. S. A. Peoples) Determination of amphetamine in urine and blood. *Acta vet. scand.* 1971, 12, 607—610.