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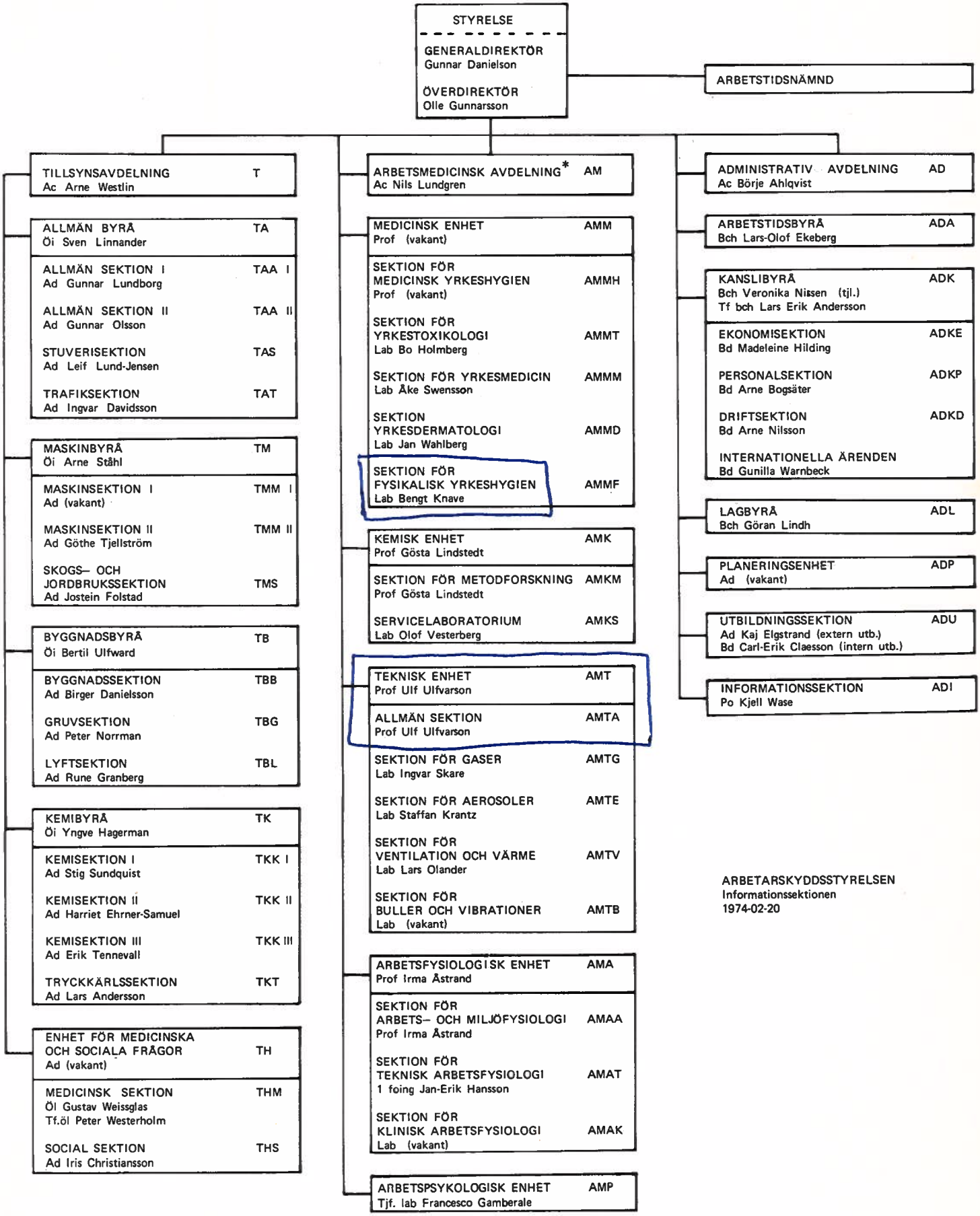

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1974-02-20

NATIONAL BOARD OF OCCUPATIONAL SAFETY AND HEALTH
Department of Occupational Health
S-100 26 STOCKHOLM 34, Sweden

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List on publications and duplicated reports 1973[x)]

Publikations- och rapportförteckning för år 1973

1. Anon.
STUDIEHANDBOK. SKYDDSINGENJÖRSUTBILDNINGEN 1973/74.
Stockholm (Arbetarskyddsstyrelsen) 1973. 21 sid. + 4 bil.
Swedish (Utbildning 004/73)

2. Ahlin, K
Reveman, A
(Tre Konsulter AB)
UTREDNING RÖRANDE METODER OCH INSTRUMENTERINGSALTERNATIV FÖR FREKVENSANALYS AV VIBRATIONER PÅ FORDONSFÖRARE
Stencil (Arbetarskyddsstyrelsen) 1973. 11 sid. + 4 bil. (Undersökn.rapport AMA 109/73)
Swedish

Åstrand: se below after Z

3. Bernhard, C G
Knave, B
Persson, H E
DIFFERENTIAL EFFECTS OF ETHYL ALCOHOL ON RETINAL FUNCTIONS
Acta Physiol. Scand. 88 (1973) p. 373-381, 23 refs.
English

4. Bjurvald, M
Carlsöö, S
Hansson, J-E
Sjøflot, L
HELKROPPSVIBRATIONER: EN TEKNISK-FYSIOLOGISK STUDIE AV ARBETSSTÄLLNINGAR OCH FÖRARSTOLAR
Whole-body vibrations. A technical-physiological study of working postures and driver's seats
Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:7. 27 sid. 22 refs.
Swedish with English summary

5. Bjurvald, M
Hansson, J-E
ERGONOMISKA STUDIER AV SIKTFÖRHÅLLANDEN PÅ INDUSTRITRUCKAR
Stencil (Arbetarskyddsstyrelsen) 1973. 25 sid. (8 bilagor i särskild rapport)
Swedish (Undersökn.rapport AMA 111/73)

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6. Ehrner-Samuel, H
Balmér, K
Thorsell, W

DETERMINATION OF TRICHLOROACETIC ACID IN URINE BY A GAS CHROMATOGRAPHIC METHOD

Amer. Ind. Hyg. Ass. J. 34 (1973) p. 93-96. 6 refs. English

7. Ekblom, B
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SYMPATHECTOMY AND PHARMACOLOGICAL BLOCKADE IN TRAINED RATS

Acta Physiol. Scand. 89 (1973) p. 283-285. 5 refs. English

8. Elgstrand, K

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Arbetsmiljö (Stockholm) nr 1, 1973, p. 20-21. Swedish

9. Elgstrand, K

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Arbetsmiljö (Stockholm) nr 3, 1973, p. 22. Swedish

10. Elgstrand, K

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12. Elgstrand, K

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13. Elgstrand, K

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Arbetsmiljö (Stockholm) nr 13, 1973, p. 32-33. Swedish

14. Elgstrand, K

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15. Elgstrand, K

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Stencil (Arbetarskyddsstyrelsen) 1973. 15 sid. + 7 bil. 13 litt.ref. (Utbildning 006/73) Swedish

16. Gamberale, F
Hultengren, M

EXPOSITION FÖR STYREN
II. PSYKOFYSIOLOGISKA FUNKTIONER
Exposure to styrene. II. Psychological functions.

Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:3, p. 43-61. 16 refs. Swedish with English summary

17. Gamberale, F
Hultengren, M

METHYLCHLOROFORM EXPOSURE. II. PSYCHOPHYSIOLOGICAL FUNCTIONS

18. Gamberale, F
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NARKOSGASERS EFFEKT PÅ PSYKOMOTORISKA FUNKTIONER HOS NARKOSSKÖTERSKOR
The effect of anaesthetic gases on psychomotor functions of anaesthetic nurses

Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:5, 13 p. 13 refs.
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19. Göthe, C-J
Öhman, H
Lindstedt, G

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Work-environment-health 10 (1973) p. 13-18. 24 refs.
English

20+) Hansson, J-E

ANPASSNING AV ARBETET

Aktiveringssektionen Rapport A 909139, Stockholm (Arbetsmarknadsstyrelsen, Fack, 102 20 Stockholm) 1973, 23 sid.
Swedish

21+) Hansson, J-E
Klusell, L
Pettersson, B
Svensson, A

SKOGSMASKINEN SOM ARBETSPLATS
Ergonomic evaluation of logging machines

Redogörelse nr 3 (Forskningsstiftelsen Skogsarbeten, Drottninggatan 97, 113 60 Stockholm) 1973, 52 p 19 refs.
Swedish with English summary and bilingual text at figures and tables. Price: 29 Swedish crowns

22+) Hansson, J-E
Pettersson, B

ÄR SKOGSMASKINEN EN BRA ARBETSPLATS?

Teknik nr 6 (Forskningsstiftelsen Skogsarbeten) 1973, 4 sid. (Utgör en sammanfattning av föregående Redogörelse nr 3)
Swedish

23. Hansson, J-E
Pettersson, B

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Arbetsmiljö (Stockholm) nr 11, 1973, p. 24-25. (Utgör en sammanfattning av "Skogsmaskinen som arbetsplats")
Swedish

24a. Hansson, J-E
Klusell, L
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Impact power drills. An ergonomic and hygienic study
Stockholm (Arbetarskyddsstyrelsen) 1973, 42 p. 18 refs.
Swedish. English translation of the text: see below

24b. - " -

IMPACT POWER DRILLS. AN ERGONOMIC AND HYGIENIC STUDY

Duplicated. National Board of Occupational Safety and Health 1973, 26 p. (no figures)
English

25. Hansson, J-E
Kvarnström, S

ERGONOMISK CHECKLISTA FÖR TRUCKAR

Stockholm (Arbetarskyddsstyrelsen) 1973, 8 sid.
Swedish (Metodrapport AMA 105/73)

26+) Hansson, J-E
Lindén, R
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(Inst. f. Socialmed.)

ERGONOMISK GRANSKNING AV SKÖRDETRÖSKOR

Jordbrukets socialmedicin, meddelanden nr 5, Ed. II Stencil/offset (Institutionen för Socialmedicin, Lasarettet, 221 85 Lund) 1973, 16 sid.
Swedish

27+) Hansson, J-E
Suggs, C W

LÅGFREKVENTA VIBRATIONERS EFFEKT PÅ REGLAGEMANÖVRERING
The effect of seat vibration on vehicle operators' lever and pedal control capabilities

Rapporter och uppsatser nr 63 (Institutionen för skogsteknik, Skogshögskolan, Stockholm 50) 1973, 22 p. 10 refs.
Swedish with English summary Price: 5 Swedish crowns

28. Holmér, I

THE ENERGY COST OF WORK IN WATER
Abstract of paper from the 5th International Congress on Ergonomics, Amsterdam, 4-8 June 1973.

Ergonomics 16 (1973) p. 315.
English

29. Hultgren, G V
Knave, B

KONTRASTBLÄNDNING OCH REFLEXSTÖRNINGAR I KONTORSLANDSKAP MED BILDTERMINALER
Discomfort glare and disturbances from light reflections in an office landscape with CRT display terminals

Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:1, 16 p. 1 ref.
Swedish with English summary

30. Hultgren, G V
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SYNBESVÄR VID LÄSNING AV MIKROFILM I OLIKA FÖRSTORINGSAPPARATER
Eye strain when reading microfilms in different enlargers

Nord. Hyg. Tidskr. 54 (1973) p. 137-151. 3 refs.
Swedish with English summary

31. Jakobson, I

BIOTRANSFORMATIONEN AV TOLUEN, STYREN OCH METYLKLOROFORM

Stencil (Arbetarskyddsstyrelsen) 1973, 21 sid. 9 litt.ref.
Swedish (Undersökn.rapport M2 101/73)

32. Kilbom, Å

DEN FYSISKA ARBETSFÖRMÅGAN UNDER ÅLDRANDET

Ingår i "Pensionering och sysselsättning: aktivering av äldre" (red. Y Zotterman) p. 32-41. 12 litt. ref. Stockholm (Allm. Förlaget) 1973.
Swedish ISBN 91-38-01531-5

33. Knave, B

SYNFYSIOLOGI OCH BELYSNING - NÅGRA YRKESHYGIENISKA KONSEKVENSER
Lighting: Applications of vision physiology in occupational hygiene

Nord. Hyg. Tidskr. 54 (1973) p. 55-67.
Swedish with English summary

34. Knave, B

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Form (Svenska slöjdföreningen) 69 (1973) 2, p. 68-70.
Swedish

35. Knave, B
Kolmodin-Hedman, B
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KRONISK CS_2-FÖRGIFTNING: EFFEKTER PÅ NERVSYSTEMET HOS YRKESMÄSSIGT EXPONERADE ARBETARE I SVENSK VISKOSINDUSTRI
Chronic CS_2-poisoning: Effects on the nervous system of occupationally exposed workers

Arbete och Hälsa - vetenskaplig skrifserie (Arbetarskyddsverket) 1973:2, 20 p. 17 refs.
Swedish with English summary

36. Knave, B
Nilsson, S E G
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THE HUMAN ELECTRORETINOGRAM: DC RECORDINGS AT LOW AND CONVENTIONAL STIMULUS INTENSITIES. DESCRIPTION OF A NEW METHOD FOR CLINICAL USE

Acta Ophthal. 51 (1973) p. 716-726.
English

37. Knave, B
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SELECTIVE EFFECT OF A NEW ANTITUBERCULOUS DRUG, RIFAMPICIN, ON THE c-WAVE OF THE SHEEP ELECTRORETINOGRAM

Acta Ophthal. 51 (1973) p. 371-374. 8 refs.
English

38. Knave, B
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HÄLSOUNDERSÖKNING AV CS_2-EXPONERAD PERSONAL VID SVENSKA RAYON AB, ÄLVENÄS, VÅLBERG

Stencil (Arbetarskyddsstyrelsen) 1973, 24 sid. + bilagor
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39. Kolmodin-Hedman, B

DECREASED PLASMA HALF-LIFE OF PHENYLBUTAZONE IN WORKERS EXPOSED TO CHLORINATED PESTICIDES

Europ. J. Clin. Pharmacol. 5 (1973) p. 195-198. 11 refs.
English

40. Kolmodin-Hedman, B
Palmér, L
Götell, P
Skerfving, S

PLASMA LEVELS OF LINDANE, p,p'-DDE and p,p'-DDT IN OCCUPATIONALLY EXPOSED PERSONS IN SWEDEN

Work-environment-health 10 (1973) p.100-106. 23 refs.
English

41. Kolmodin-Hedman, B
Swensson, Å

UNDERSÖKNING ÖVER SKIFTARBETE BLAND LOKPERSONAL VID SJ, KIRUNA

Stencil (Arbetarskyddsstyrelsen) 1973. Ca 170 sid. inkl. bil.
Swedish

42+) Lagerlöf, E
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Rapport från arbetsgruppen för olycksfallsforskning, Arbetarskyddsfonden, Rapport 1973:4, 98 sid. Ca 140 litt.ref. (Arbetarskyddsfonden, Sveavägen 166, 113 46 Stockholm)

43. Lagerlöf, E
Lindström, K-G

TILLBUDSSTUDIER: FÖRDELARNA ÄR MÅNGA FLER!

Arbetsmiljö (Stockholm) nr 12, 1973, p. 16-17.
Swedish

44. Lidström, I-M

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Measurement of energy dissipated by the body when using a vibrating tool

Nord. Hyg. Tidskr. 54 (1973) p. 41-45.
Swedish with English summary

45. Lindberg, E
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EN ENKÄTUNDERSÖKNING VID ETT SJUKHUS I STOCKHOLM

Stencil (Arbetarskyddsstyrelsen) 1973, 62 sid.
Swedish (Undersökn.rapport AMMM 103/73)

46+) Lindstedt, G
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KEMISKA FÖRORENINGAR I ARBETSMILJÖN
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Rapport från arbetsgruppen för kemiska föroreningar, Arbetarskyddsfonden, Rapport 1973:3, 88 sid. (Arbetarskyddsfonden, Sveavägen 166, 113 46 Stockholm)
Swedish

47. Lindstedt, G

KEMISKA ANALYSMETODER INOM DET ARBETSHYGIENISKA OMRÅDET

Stencil (Arbetarskyddsstyrelsen) 1973, 35 sid.
Ca 60 litt.ref. 2. uppl.
Swedish (Utbildn. U 001/73)

48. Lindström, K G

FONDRAPPORT VISAR: FÅ BRANSCHER UTREDER OLYCKSFALLEN (Sammanfattning av ovanstående: Lagerlöf m fl: Olycksfall i arbetsmiljön ...)

Arbetsmiljö (Stockholm) nr 9, 1973, p. 10-11.
Swedish

49. Lundgren, N
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REDOGÖRELSE FÖR "KURS I ERGONOMI" 1968-1973"

Stockholm (Arbetarskyddsstyrelsen) 1973, 30 sid.
Swedish (Utbildn. U 005/73)

50. Nilsson, S E G
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THE MORPHOLOGY OF THE SHEEP RETINA
I. THE RECEPTOR CELLS AND THE PIGMENT EPITHELIUM

Acta Ophthal. 51 (1973) p. 599-611. 16 refs.
English

51. Nilsson, S E G
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Lunt, T
Persson, H E

THE MORPHOLOGY OF THE SHEEP RETINA
II. THE INNER NUCLEAR LAYER, THE GANGLION CELLS AND THE PLEXIFORM LAYERS

Acta Ophthal. 51 (1973) p. 612-627. 16 refs.
English

52. Petersson, N F

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Arbetsmiljö (Stockholm) nr 13, 1973, p. 15.
Swedish

53. Skare, I
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Determination of aldehydes in air

Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:6, 125 p. 107 refs.
Swedish with English summary

54a. Skare, I

G 3. SUMMA ALDEHYDER. METODRAPPORT.
PROVTAGNING: KUMULATIV. ANALYS: TITRIMETRI (VÄTESULFITMETODEN)

Stencil (Arbetarskyddsstyrelsen) 1973, 15 sid.
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Swedish (T 104/73)

54b. Skare, I

G 3. TOTAL ALDEHYDES. METHODS REPORT.
SAMPLING: CUMULATIVE. ANALYSIS: TITRIMETRIC (BISULFITE METHOD)

Duplicated (National Board of Occupational Safety and Health) 1973, 12 p. 7 refs.
English (T 105/73)

55a. Skare, I

G 4. FORMALDEHYD. METODRAPPORT.
PROVTAGNING: KUMULATIV. ANALYS: KOLORIMETRI (KROMOTROPSYRAMETODEN)

Stencil (Arbetarskyddsstyrelsen) 1973, 17 sid.
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55b. Skare, I

G 4. FORMALDEHYDE. METHODS REPORT.
SAMPLING: CUMULATIVE. ANALYSIS: COLORIMETRIC (CHROMOTROPIC ACID METHOD)

Duplicated (National Board of Occupational Safety and Health) 1973, 17 p.
English (T 108/73)

56. Skare, I et al.

UTVÄRDERING AV VISSA ANALYSAMPULLERS TILLFÖRLITLIGHET VID KONTROLL AV ARBETSMILJÖ ENLIGT ARBETARSKYDDSSTYRELSENS "BERGANVISNINGAR" 1973

Stencil (Arbetarskyddsstyrelsen) 1973, 7 sid.
Swedish (Undersökn.rapport T 101/73)

57+) Swensson, Å (arbetsmed. avd repr. i arbetsgruppen)

ARBETSTIDENS FÖRLÄGGNING
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Rapport från arbetsgruppen för skiftarbete, Arbetarskyddsfonden, Rapport 1973:1, 166 sid. inkl. bilagor, 481 litt.ref. (Arbetarskyddsfonden, Sveavägen 166, 113 46 Stockholm)

58. Swensson, Å
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Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:4, 30 p. 9 refs.
Swedish with English summary

59. Swensson, Å
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EFFECT OF LONG-TERM ADMINISTRATION OF D-PENICILLAMIN ON SURVIVAL, DISTRIBUTION AND ELIMINATION OF MERCURY IN RATS AFTER A SINGLE INJECTION OF METHYL

60. Söderqvist, S — BULLERBEKÄMPNING

Stencil (Arbetarskyddsstyrelsen) 1973, 21 sid. + figurbil.
Swedish (Utbildning U 001/73)

61. Ulfvarson, U — ARBETSHYGIEN OCH KEMIINDUSTRI- HUR MÖTS DE TVÅ?

Kemisk tidskrift 85 (1973) p. 62-64 & 67-68.
Swedish

62. Ulfvarson, U — LIVSVIKTIGT KÄNNA TILL RISKERNA VID GALVANISERING

Arbetsmiljö (Stockholm) nr 9, 1973, p. 14-15
Swedish

63. Ulfvarson, U — SAMMANFATTNING AV LITTERATURÖVERSIKT RÖRANDE SVETSNINGENS HÄLSO- OCH OLYCKSFALLSRISKER[x)]

Xeroxkopia (Arbetarskyddsstyrelsen) 1973, 32 sid. 211 litt.ref.
Swedish (Undersökn.rapport T 102/73)

64. Ulfvarson, U — TEKNISK ARBETSHYGIEN - KEMISKA RISKFAKTORER

Stencil (Arbetarskyddsstyrelsen) 1973, 167 sid.
Swedish (Utbildning U 001/74)

65. Wahlberg, I
Åstrand, I — PHYSICAL WORK CAPACITY DURING THE DAY AND AT NIGHT

Work-environment-health 10 (1973) p. 65-68, 11 refs.
English

66. Wahlberg, J E — THRESHOLDS OF SENSITIVITY IN METAL CONTACT ALLERGY 1. ISOLATED AND SIMULTANEOUS ALLERGY TO CHROMIUM, COBALT, MERCURY AND/OR NICKEL

Berufsdermatosen 21 (1973) p. 22-33, 8 refs.
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67. Wahlberg, J E — THRESHOLDS OF SENSITIVITY IN METAL CONTACT ALLERGY 2. THE VALUE OF PERCUTANEOUS ABSORPTION STUDIES FOR SELECTION OF THE MOST SUITABLE VEHICLE

Berufsdermatosen 21 (1973) p. 151-158, 10 refs.
English

68. Wahlberg, J E — PERCUTANEOUS ABSORPTION

Current Problems in Dermatology, Vol. 5, p. 1-36, 185 refs. Basel (Karger) 1973
English

69. Vesterberg, O — PHYSICO-CHEMICAL PROPERTIES OF THE CARRIER AMPHOLYTES AND SOME BIOCHEMICAL APPLICATIONS

Ann. N.Y. Acad. Sci. 209 (1973) p. 23-33. 45 refs.
English

70. Vesterberg, O — SEPARATION AND CHARACTERIZATION OF PROTEINS BY ISOELECTRIC FOCUSING

Proc. VII Symposium Chromatography & Electrophoresis. Brussels (Presses Acad. Europeenes) 1973, p. 81-98, 44 refs.
English

71. Vesterberg, O

ISOELECTRIC FOCUSING OF ACIDIC PROTEINS. STUDIES ON PEPSIN

Acta Chem. Scand. 27 (1973) p. 2415-2420, 19 refs.
English

72. Vesterberg, O
Nise, G

URINARY PROTEINS STUDIED BY USE OF ISOELECTRIC FOCUSING
1. TUBULAR MALFUNCTION IN ASSOCIATION WITH EXPOSURE TO CADMIUM

Clin. Chem. 19 (1973) p. 1179-1183, 18 refs.
English

73. Zylberstein, M

FYSISK BELASTNING UNDER RÖKDYKNING
UPPDRAGSGIVARE: STOCKHOLMS PERSONALNÄMND

Stencil (Arbetarskyddsstyrelsen) 1973, 17 sid.
Swedish (Uppdragsrapport D:nr 488/72 S)

74. Åstrand, I

EXERCISE ECG, ITS PROGNOSTIC SIGNIFICANCE

In "Early diagnosis of coronary heart disease" Adv. Cardiology, Vol. 8, p. 142-147, 12 refs. Basel (Karger) 1973
English

75. Åstrand, I

DE FYSISKA ÅLDERSFÖRÄNDRINGARNAS BETYDELSE I ARBETSLIVET

Ingår i "Pensionering och sysselsättning: aktivering av äldre" (red. Y Zotterman) p. 65-76, 18 litt.ref. Stockholm (Allm. Förlaget) 1973
Swedish ISBN 91-38-01531-5

76+) Åstrand, I (member of an expert team)

DIET AND EXERCISE
A PHYSIOLOGICAL AND NUTRITIONAL REVIEW OF DIET AND EXERCISE BY A TEAM OF EXPERTS APPOINTED BY THE NATIONAL BOARD OF HEALTH AND WELFARE

Stockholm (Socialstyrelsen, Fack, 106 30 Stockholm) 1972, 36 p.
English ALLF 113 72 239

77. Åstrand, I

EFFEKT AV LÖSNINGSMEDEL. GRÄNSVÄRDE FÖR TOLUEN STUDERAS

Arbetsmiljö (Stockholm) nr 5, 1973, p. 12-13
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78. Åstrand, I
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Arbetsmiljö (Stockholm) nr 7, 1973, p. 33-34
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79. Åstrand, I
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Vokac, Z

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Scand. J. clin. Lab. Invest. 31 (1973) p. 105-113, 19 refs.
English

80. Åstrand, I
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Wahlberg, I

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81. Åstrand, I
Kilbom, Å
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Arbete och Hälsa - vetenskaplig skriftserie (Arbetarskyddsverket) 1973:3, p. 1-41 & 60, 23 refs. Swedish with English summary

82. Åstrand, I
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Kilbom, Å

REDUCTION IN MAXIMAL OXYGEN UPTAKE WITH AGE

J. Appl. Physiol. 35 (1973) p. 649-654, 15 refs. English

83. Åstrand, I

SAMMANDRAG AV FÖRELÄSNINGAR I ARBETSFYSIOLOGI

Stencil (Arbetarskyddsstyrelsen) 1973, 14 sid. + figurbil.
Swedish (Utbildning U 002/73)

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Addendum to the list of the year 1972

84. Swensson, Å (ed.)

PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM ON NIGHT AND SHIFT WORK. Slanchev Bryag, September 20-24, 1971

Studia laboris et salutis (National Institute of Occupational Health) Report No. 11, 1972. 116 p. English

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Sakregister till publikations- och rapportförteckningen för år 1973

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10026 STOCKHOLM 34

List on publications and duplicated reports 1972[x)]

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1. Anon.
ARBETSMEDICINSKA INSTITUTET. SEX ÅRS VERKSAMHET.
The National Institute of Occupational Health.
Six years' activity.
Stockholm (Arbetsmedicinska institutet) 1972.
61 p. 170 refs. Gratis
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2a. Anon.
Code No.
T 125b/72
METODRAPPORT
G 1. SVAVELDIOXID - MANUELL METOD.
1972. Stencil 13 p. 8 refs.
Swedish edition

2b. Code No.
T 126/72
METHODS REPORT
G 1. SULFUR DIOXIDE - MANUAL METHOD.
1972. Duplicated 11 p. 7 refs.
English edition

3a. Anon.
Code No.
T 130/72
METODRAPPORT
G 2. KVÄVEDIOXID - MANUELL METOD.
1972. Stencil 17 p. 5 refs.
Swedish edition

3b. Code No.
T 131/72
METHODS REPORT
G 2. NITROGEN DIOXIDE - MANUAL METHOD.
1972. Duplicated 12 p. 5 refs.
English edition

4. Anon.
VERKTYGSMASKINEN OCH MÄNNISKAN (KONFERENSRAPPORT)
(Från AI: S Forssman, J-E Hansson & S Carlsöö)
Ergonomic aspects on machine tools (a report from a conference)
Verkstäderna no. 4, 1972, p. 171-176.
Swedish

x) Requests for reprints should be directed to the Library (or to the author). If a certain reprint is out of print a photo copy may be obtained at nominal cost or on exchange basis. - Items with a +) are only obtainable through booksellers or through the distributor mentioned within hyphens.

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5. Anon.

ARBETSMILJÖN OCH ARBETSVETENSKAPEN. FORSKNING OCH UTBILDNING PÅ DET ARBETSVETENSKAPLIGA OMRÅDET. (Medarbetare från AI: I Åstrand)
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IVA-rapport 43, Stockholm (IVA) 1972. 95 p.
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SAMMANFATTNING AV EN RAPPORT UTARBETAD AV EN GRUPP INOM INGENJÖRSVETENSKAPSAKADEMIEN (Medarbetare från AI: I Åstrand)
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SWEDISH EXPERIENCES, TRENDS, AND FUTURE PROBLEMS.
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Stockholm 1971. 66 p. Gratis.
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Physical training with submaximal intensities.

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Exercise without exhaustion.

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Prophylaxis against hearing damage.

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Serien Teknik no. 4, (Forskningsstiftelsen Skogsarbeten, Drottninggatan 97 11360 Stockholm) 1972. 4 p.
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A U T H O R I N D E X

ARBETARSKYDDSSTYRELSEN

Arbetsmedicinska avdelningen
10026 STOCKHOLM 34

Sakregister till publikations- och rapportförteckningen för år 1972

Occupational Health Department
S-100 26 STOCKHOLM 34, Sweden

Research projects in progress, October 1973
incl. project number and project leader

Work physiology unit

Section AMAA (Work and environmental physiology)

AMAA: 08	Physiological load during work in water (In collaboration with the Department of Physiology, School for Physical Education)	I. Holmér
AMAA: 09	Physiological load from increased breathing resistance when using a filter respirator	L. Strindberg

Section AMAT (Technical physiology)

AMAT: 04	Whole body vibrations: measurement technique (In collaboration with the Agricultural Institute, Ås, Norway, and the Logging Research Foundation, Stockholm)	J.-E. Hansson
AMAT: 05	Studies of driver's seats with a special view to their vibration-damping characteristics, lateral damping in particular (In collaboration with Professor S. Carlsöö, earlier at the Karolinska Institutet, Stockholm, the Agricultural Institute, Ås, Norway, and the Swedish Testing Institute for Agricultural Machinery)	J.-E, Hansson
AMAT: 06	The climate in driver's cabs on forest machines	J.-E. Hansson
AMAT: 07	Revision of an ergonomic check list for transport and handling machines (In collaboration with the Royal College of Forestry, Stockholm, and the Logging Research Foundation, Stockholm)	J.-E. Hansson
AMAT: 08	Personal protective equipment at work with motor chain saws (Ergonomic part of the main project) (In collaboration with the Work psychology unit, the Forestry section of the Supervision Department, and the Swedish Testing Institute for Agricultural Machinery)	J.-E. Hansson (J.A. Folstad, main project leader)

Section AMAK (Clinical work physiology)

AMAK: 15	Solvents project: Human exposure and evaluation (In collaboration with the Chemistry, Medical, Work Psychology, and Technical units)	I. Åstrand
AMAK: 16	Circulatory reaction to physical work at different times during the menstrual cycle	I. Wahlberg

AMAK: 18	Construction of a field equipment for continuous blood pressure measuring (In collaboration with the Swedish Aeronautical Research Institute)	I. Åstrand
AMAK: 19	Studies on the balance of the autonomic nervous system (In collaboration with the Occupational toxicology section)	Å. Kilbom
AMAK: 20	A lung and work physiology study of silicosis patients compared with control groups of healthy persons occupationally exposed to silicosis hazardous dust	Å. Kilbom

Work psychology unit (AMP)

AMP: 01	Subjective and objective criteria for the influence of "draft" on man (In collaboration with the Work physiology unit, and the Department of Psychology, University of Stockholm)	F. Gamberale
AMP: 02	Sawmill ergonomics (In collaboration with the Department of Wood Technology, University of Technology, Stockholm, and the Swedish Council for Social Science Research)	K. Baneryd (B. Ager, main project leader)
AMP: 03	The effect of anaesthetic gases on nurses' reaction ability	F. Gamberale
AMP:04	Accidents in tree felling work (In collaboration with the Forestry section of the Supervision Department, the Logging Research Foundation, and the Royal College of Forestry, Stockholm)	K. Baneryd E. Lagerlöf
AMP: 05	Attitudes to personal protective equipment (Part study of the main project Personal protective equipment at work with motor chain saws) (In collaboration with the Work physiology unit and the Forestry section of the Supervision Department and the Professional Forestry Inspection Board)	K. Baneryd F. Gamberale E. Lagerlöf
AMP: 06	Study of accidents in forestry work (In collaboration with the Logging Research Foundation, the Royal College of Forestry, Stockholm, and Professor W.T. Singleton, Aston University, Birmingham, England)	E. Lagerlöf
AMP: 07	Methods development for measuring psychomotor functions	F. Gamberale

Also see under the following projects:

AMAK: 15	Solvents project: Human exposure and evaluation	
AMAK: 16	Circulatory reaction to physical work at differ	

Chemistry unit (AMK)

AMK: 01	Determination of nanogram quantities of mercury in biological materials (urine, blood, etc) and in air	G. Lindstedt
AMK: 02	Determination of trace metals in blood and other biological specimens using atomic absorption analysis	G. Lindstedt
AMK: 03	Isolation and characterization of mercury- and cadmium-binding proteins in human blood	O. Vesterberg
AMK: 04	Isolation and characterization of lead-binding proteins in human blood	O. Vesterberg
AMK: 05	Determination of fluoride levels in biological materials and in air using an ion-specific electrode	G. Lindstedt
AMK: 06	Improvement of the analysis method for direct measurement of a chromatogram (In collaboration with the Technical and Work physiology units)	G Lindstedt
AMK: 08	Collection, storage and analysis of air samples containing solvent vapour	H. Ehrner-Samuel (until end of 1973)
AMK: 13	Examination of cement, mould lubricants and detergents for chromium, cobalt and nickel (In collaboration with the Occupational dermatology section)	G. Lindstedt
AMK: 16	Determination of solvents in blood Part study within the Solvents project, AMAK: 15) (In collaboration with the Technical unit)	H. Ehrner-Samuel (until end of 1973)
AMK: 17	Determination of the possible effect of technical substances on DNA structure *in vitro*	S. Walles
AMK: 18	Study of kidney damage caused by *inter alia* cadmium (In collaboration with the Department of Hygiene, Karolinska Institutet)	O. Vesterberg
AMK: 19	Biochemical studies in connection with human exposure to organic solvents (In collaboration with the Occupational medicine section)	O. Vesterberg

Medical unit (AMM)

Section AMMH (Medical occupational hygiene)

AMMH: 01	Studies dealing with silicosis diagnosis and the problem of dose response	A. Ahlmark

Section AMMT (Occupational toxicology)

AMMT: 02	General biological and chemical effects of solvents on the cellular and subcellular level	B. Holmberg
AMMT: 03	Studies on the cellular effects of organic solvents *in vivo*	B. Holmberg
AMMT: 04	The effect of organic solvents on laboratory experimental animals (cf. project no. AMAK:15)	B. Holmberg
AMMT: 05	Studies on the combination effect between exposure to organic solvents and physical training (In collaboration with the Clinical work physiology section)	B. Holmberg
AMMT: 06	Studies on the metabolism of those solvents included in the Solvents project (AMAK:15)	I. Jakobsson
AMMT: 07	Studies on, primarily, glutathione-dependent detoxication mechanism for halogenated solvents (In collaboration with the Department of Biochemistry, University of Stockholm)	I. Jakobsson

Section AMMM (Occupational medicine)

AMMM: 04	Study of fibrogenetic tendencies of different types of amorphous SiO_2 (silicon dioxide)	Å. Swensson
AMMM: 05	Study of the relative fibrogenetic tendency of different industrial atmospheric dusts	Å. Swensson
AMMM: 06	Studies of shift work	Å. Swensson
AMMM: 07	Investigation of reaction on respiratory organs from exposure to cobalt	Å. Swensson
AMMM: 08	Prolonged occupational exposure to fairly high concentrations of organic solvents (A part of the Solvents project, AMAK:15)	Å. Swensson
AMMM: 09	Investigation of exposure to carbon monoxide in foundries	Å. Swensson
AMMM: 10	Studies on prolonged exposure to different lead levels (In collaboration with the Physical occupational hygiene section and the Chemistry unit)	Å. Swensson

Also see under the following projects:

AMK: 19	Biochemical studies in connection with human exposure to organic solvents
AMT:101/73	Work environment problems of welding: Part study 2 (Epidemiological investigation)

Section AMMD (Occupational dermatology)

AMMD: 01	Studies on the pathogenesis of allergic contact eczema	J.E. Wahlberg

AMMD: 04	Contact eczema prophylaxis	J.E. Wahlberg
AMMD: 05	Studies on the incidence of metal allergies (In collaboration with the Chemistry unit)	J.E. Wahlberg
AMMD: 06	Scrotal carcinoma	J.E. Wahlberg
AMMD: 07	Skin absorption of explosives (In collaboration with the Chemistry unit)	J.E. Wahlberg
AMMD: 08	Patch test methods	J.E. Wahlberg
AMMD: 09	Guinea-pig maximization test	J.E. Wahlberg

Section AMMF (Physical occupational hygiene)

AMMF: 03	Examination of the methods used to diagnose vibration damage	I.-M. Lidström
AMMF: 04	Elucidation of the relationship between the development of vibration damage and exposure to vibration with respect to duration, vibration force and frequency spectrum	I.-M. Lidström
AMMF: 06	Studies on occupational eye diseases and lighting problems	B. Knave
AMMF: 07	Studies on the effect of different agents on the nervous system (In collaboration with the Department II of Physiology, Karolinska Institutet, and the Department of Theoretical Alcohol Research, Karolinska Institutet)	B. Knave

Also see under the following projects:

AMMM: 10	Studies on prolonged exposure to different lead levels
AMT:101/73	Work environment problems of welding: Part study 4 (Investigation on noise and radiation exposure at welding)

Technical unit (AMT)

AMT:101/69	Technical problems of occupational health service in small companies	U. Ulfvarson
AMT:101/72	Possible health risks in the manufacture of fiberglass-reinforced hard plastic. A review of the literature.	P. Ödelycke
AMT:101/73	Work environment problems of welding (In collaboration with the Medical unit, with certain industry laboratories and other Swedish projects in the same field)	U. Ulfvarson
AMT:201/69	Determination of low molecular aldehydes in the air	I. Skare

AMT:203/71	Evaluation of CO-instruments for field use	I. Skare
AMT:201/72	Preparation of booklets on recommended field methods for toxic gases	I. Skare
AMT:201/73	Testing of detector tubes	I. Skare
AMT:302/69	A field study on hygienic aspects in motor-car repair shops	I. Skare
AMT:301/71	Uptake of lead from lead dust in rat lungs (In collaboration with the Medical unit)	S. Krantz
AMT:301/72	Testing of the filter method for dust sampling	S. Krantz
AMT:301/73	A comparative methods study between elutriation and sedimentation techniques used for particle size analysis	S. Krantz
AMT:304/73	Determination of quartz in situ on silver filters	S. Krantz
AMT:305/73	Analysis of asbestos dust with an infrared technique	S. Krantz
AMT:306/73	Analysis of asbestos dust with an optical microscopic method	S. Krantz
AMT:402/72	A comparison between one optical and two filter methods used for the determination of particle concentration of industrial air	L. Olander S. Krantz
AMT:401/73	Method for the determination of a heat stress index (In collaboration with the Work physiology unit)	L. Olander
AMT:402/73	Development of a method for determination of the effect on work environment of different technical eliminating aerosol and gas reducing measures (Determination of elimination effects)	L. Olander S. Krantz

Also see under the following project:

AMAK: 15	Solvents project: Human exposure and evaluation	

aaw.0062(2)

WISNER

Notes circulaires

Pays Nadiqum

Avril 74

8th April

1

FORSSMAN

speeding and capacities of rates

- grave stone and silicosis
- noise in mining
- plywood work in industry

- Man as a whole
- Peak load   ergonomic interest in peak load
  man at the man
- Ergonomi in health industry

Ergonomic methodology

Bad information on research.

teaching program
- physicians
- nurses
- industrial hygiene engineer
- ergonomics production engineer.
- safety worker

RODAHL
LANGE ANDERSEN

1

Famaee ②

- art of compensation | epidemiology
- longer morbidity

premature retirement on health

improve conditions

Ageing worker - what is good in age

ROMSTRA

ABERG
ROHMERT
CORLETT
KALSBC
WISNER

work and nervous

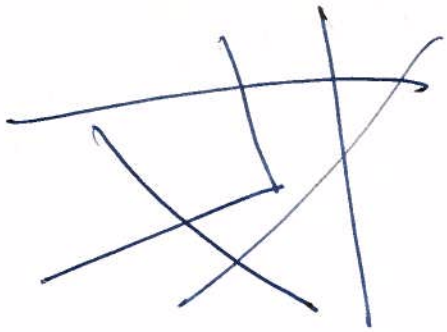
people are different reaction | anxiety | aggressiveness.

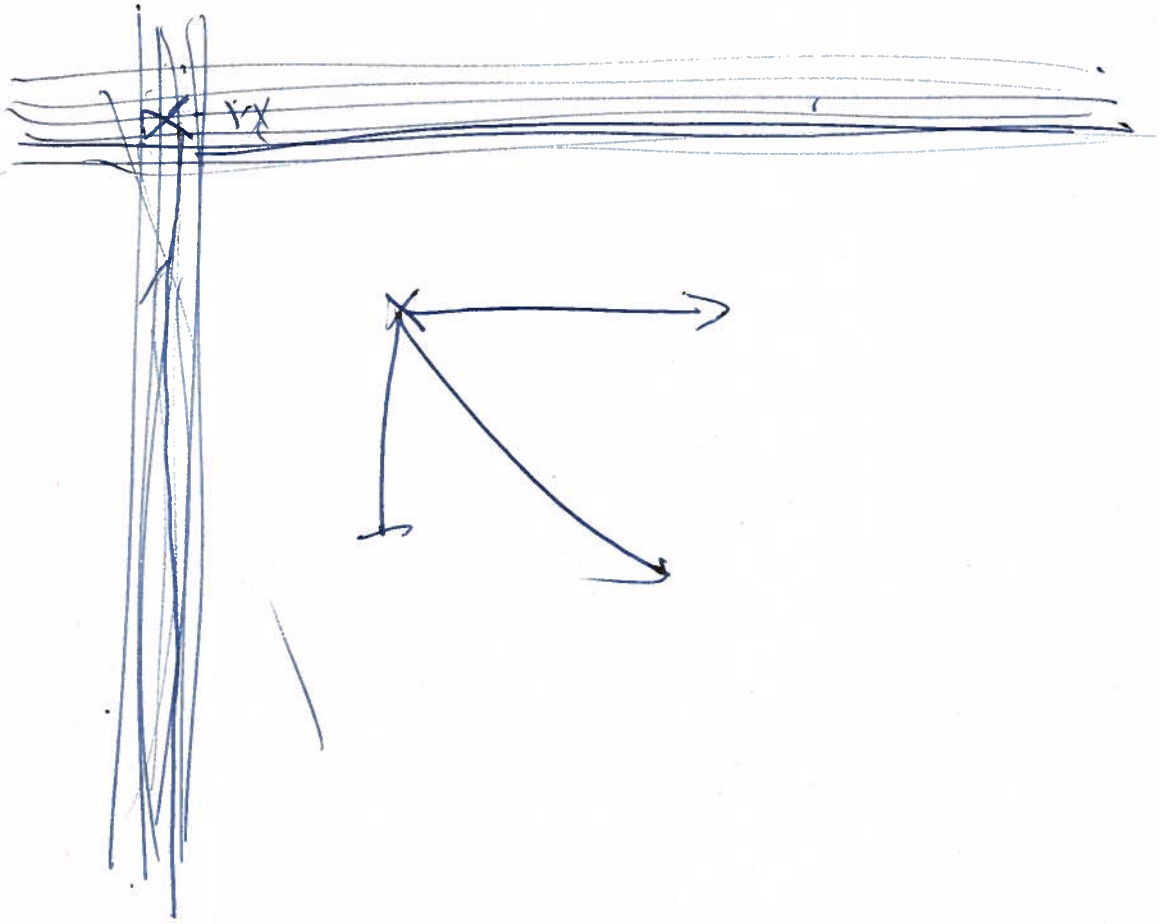
early symptoms || obstruction
alcoholism.

not Warsaw reader - multidisciplinary study of professions | negative attitude / absenteeism | Forestry

DK

- long distance transport

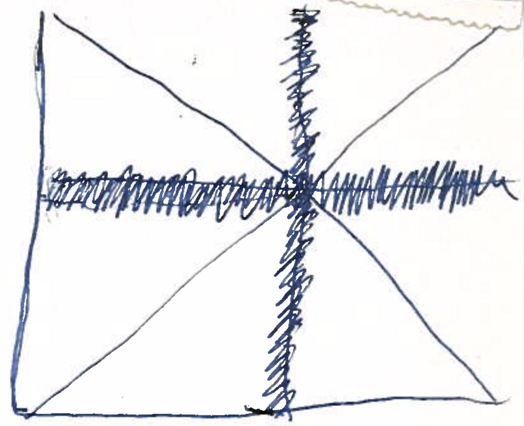




P.: FANGER Heat

BUCHTAL Technical University

KEIDING Ergonomics



9 _ 16h30

---

circulation cerebrale [illegible] INGVAR

LUND

Hopital Universitaire

Neuro[illegible]

Biochemical ~~pathway~~ pathways.

GERARD MICHAL

BOEHRINGER MANNHEIM

Biochemical division, TUTZING

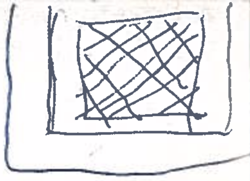
KRONLUND Technical University

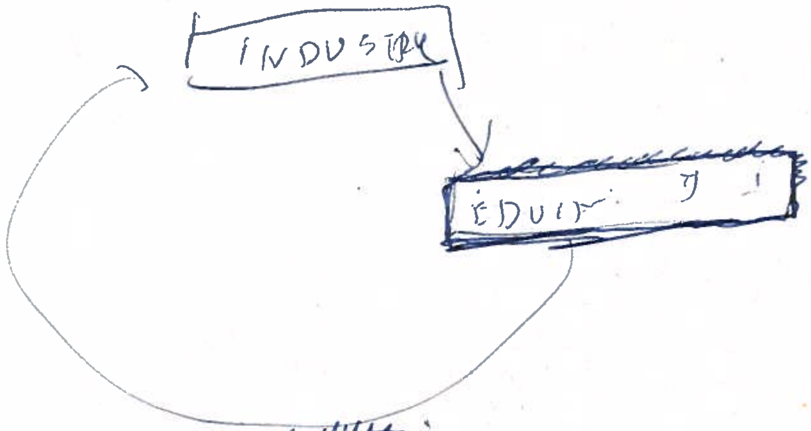
Socio & Econom different [illegible]

Society giving jobs

60% [illegible]

4





~~Intense~~ Intimacy job factors
Industrial Democracy

↗ money

- Accidents ? / speeding.
- load.

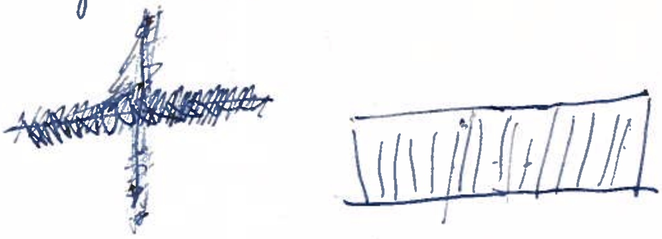
Grande unions in Swede — restructuration des tâches.
we cannot avoid
roots in Unions. — gaps between discussion
local union.

effects small → local union.

advertisement for SAAB in paper.
Italian workers. ~~...~~ : work load
nothing we cannot has been done.

give words to workers.

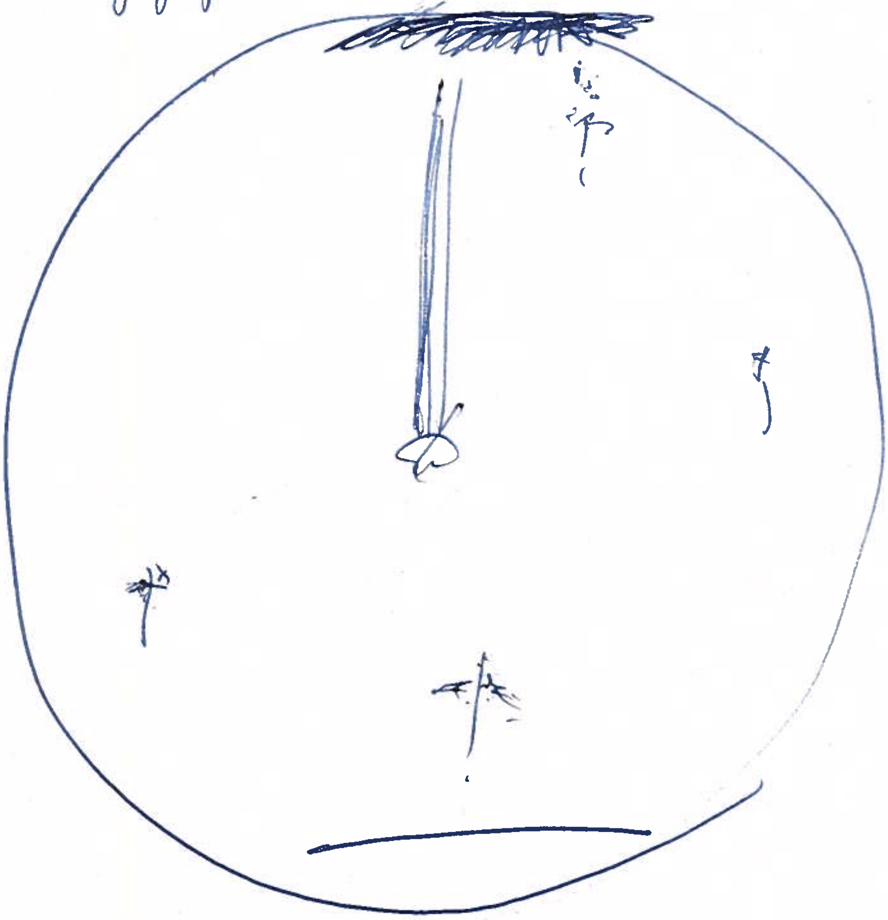
– rotation lead jobs from ~~[illegible]~~ risks.



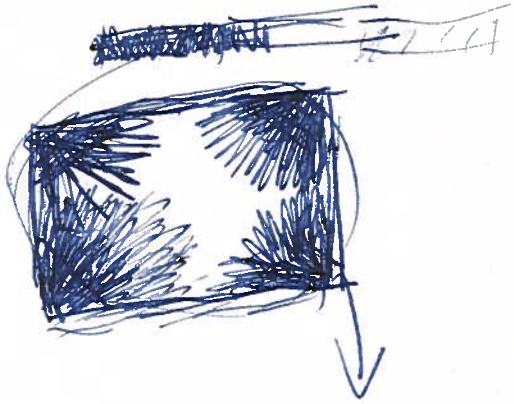
Scientists to politicians
Science in Society

qualitative methods → interpretation by workers.

language problem. KIRUNA



- qualitative methods
- workers become conscious — maieutique

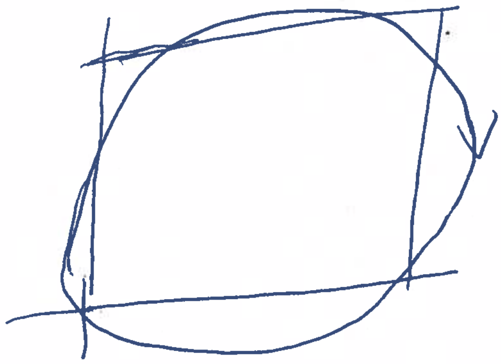


- ask Odescalchi — initiatives

w people have something to say —

SKOGLUND i program Radio
discussion worker-scientists.

Majority of workers Fund since 1 year



BUCKLEY Walter
Sociology and modern system theory
PRENTICE HALL 67

discussing conflicts change

change position → Eastern countries

representative union → not position in politics

7

Theory of this multidimensional ~~approach~~ approach.

discussion with workers

Meeting

Instant knowledge.

Individual designers → discussion
→ language.

October in PARIS 15 - 18

CGT - Engo JANERUS

- Löf KJELLSTAND

- Anders ENGLUND

Janerus secretary (ambassador)

THORSRUD change.

movement at the floor.

changes at the floor → representative board

support changes proposed by floor.

funds investment in companies

new system of labor influence.

cooperation.

pension funds and 20 m

very important. new stage of government

- take economical consequence of decision.
- collective saving enterprise
- don't take place if we cannot change
not in company boards
more power in new fields.
relation → mill floor.

---

one union have control
another have power through confederation.
no compromise behind the member.

---

new law protecting people in floor
↓
- employment
work environment more power
representative stop work →

---

local union inside company union work
displacement 1/10 of number part time

1975 article 32 management to management
power of decision
sharing the power
collective agreement.
Demand for labour price

---

take part of decision at low decision
- personal policy
work
- organization department

KJELLSTAND

new law safety representative
stronger position used in safety position

1r point (now)

- plan of plant
- ~~no~~ person to continue in refusal
of no advice of worker.
- right to stop until inspection. (of danger)
reference higher up in inspection.

- attitude of inspector : economical
point of view.

- pro worker at central level.
better education of local inspection.

- board of different people deciding with
inspector.

independence of administration from politicians

new standards for health protection

right to stop work

try to control speed
(regulation of decision and watch
decision of speed

power of inspection
power of negotiation

~~Higher~~
change of salary : production rate.
suitable speed.

VOLVO : speed controlled freedom.

---

don't expect higher productivity in Kalmar

inward social economical cost

---

continuous learning is better

---

social contact is positive

---

no industrial democracy by people is labour
not free

Union education

---

big system of union education

---

hygiene and health. Knowledge safety

Make a change is necessary
Knowledge need - not technical
not management

smelling [illegible]

Research : results of [illegible] L.O.
are not believed as useful for discussion. 11

giving awareness of products as chemical

- cancer
- infarct CS_2
- P.V.C. and cancer

- epidemiological approach
- lab
-

control new products — occupational hygiene.

- people are followed - registered
- cancer registry
- medical background.

---

differential mortality

---

illness related to work

~~[illegible]~~

information of worker — thresholds of toxicity

vulnerable.

---

real data on toxicity

exchange on medical data
on technology

medical classification.

differential sensitivity

high level hair fixing PETERSON

—

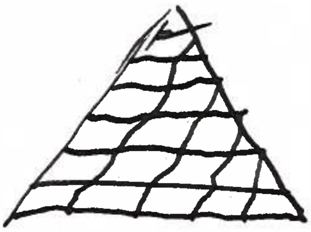
STELLMAN J.M DAUM S.M

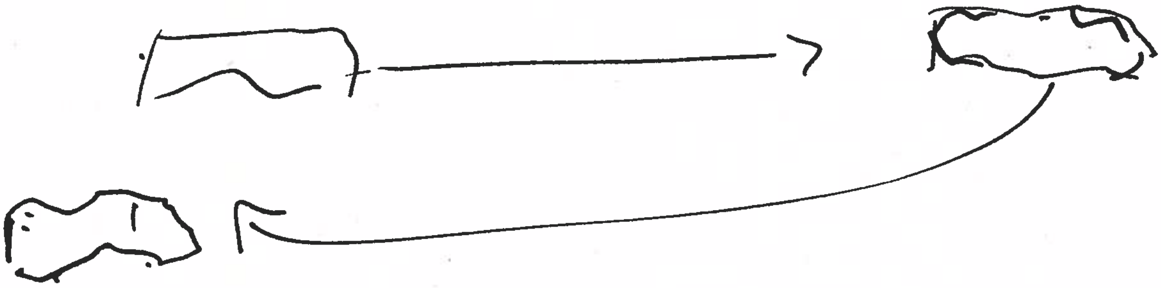
Work is dangerous for your health

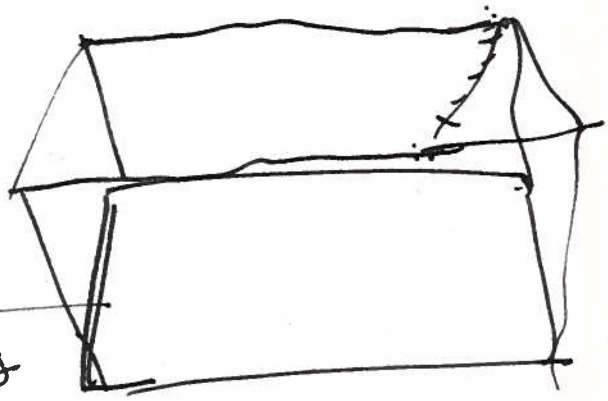
VINTAGE RANDOM House N.Y

1973

GARDELL







no use ~~from~~ for medical from psychology and physiology

New theory of man

micro and macrocosmos

Social GARDELL

Experi... FRANKENHAEUSER

control of stimulation   FRANKHAEUSER

Lab people in real working situation.

Experience gained in ψ sociology.

Motivation type of theory

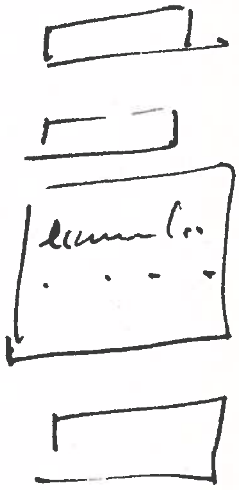
Occupational stress   FRENCH and KAHN

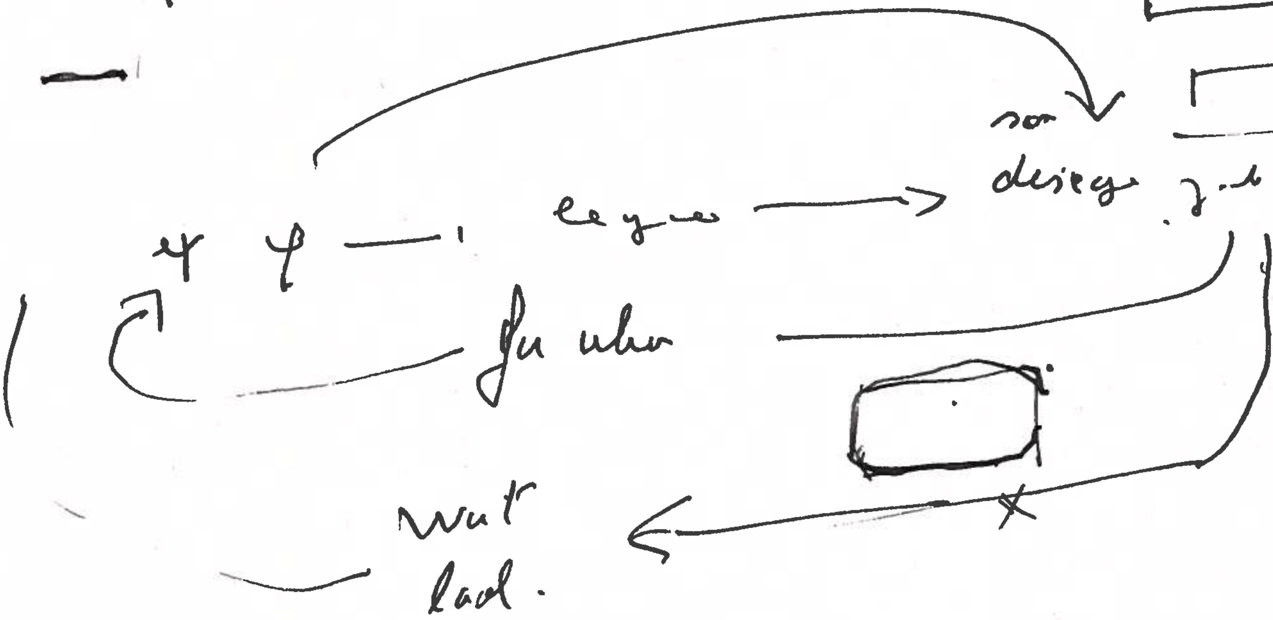
use of different results coming of different theories

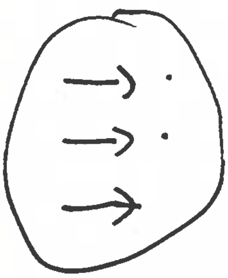
Stress concepts : potent and valid

– qualitative and quantitative overloads

– ψ stress ——→ ψ readiness







other measures / alienation
/ mental health

applied lot of health concept

to much distance between health and society parties

changing view of society
change in human health. : aspiration.
  (?) for Sweden.

---

job enrichment
Design of Jobs   LOUIS DAVIS 1972
        PENGUIN

---

job condition and rest of life.

---

alienation   instrumental attitude (?) work
        basic (?) in changes

job efficiency : greater demands.

---

design of jobs necessary for democracy

---

perceived success of experiments is good for people.

---

weak union power — weakness to work

---

against THORSRUD

---

job satisfaction and productivity,
~~(?)~~ mechanism of industrial democracy
        aspiration!

---

limits of job enrichment by management

In ~~Subscania~~ SUBSCANIA SAAB experiment

female workers ask more right (control pace divide between us good) have control the engine and injection = management; no. GUSTAVSON (union SAAB) do you take care of these demands in industrial democracy.

Design of jobs bigger (argument L. DAVIS

---

total economic cost

LFUI – health statistics

- telephone operator heart disease
- Share of training
- New physical hazards. New substances.

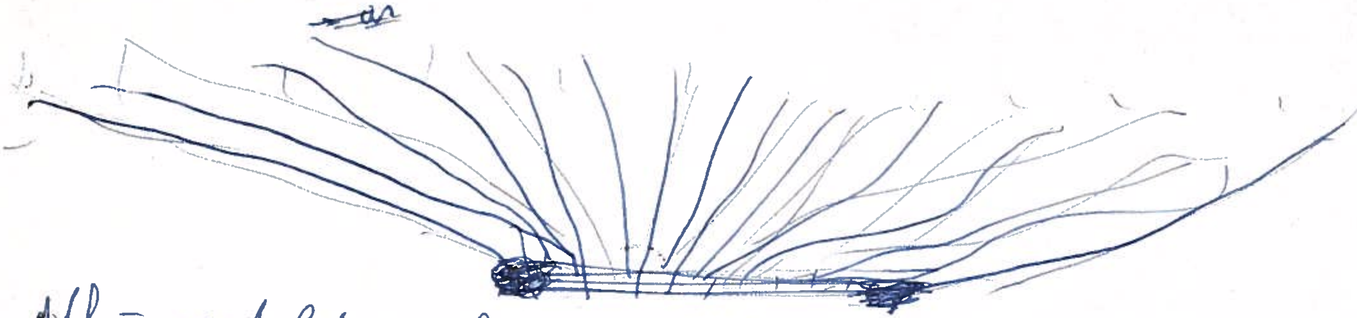
Don't be exposed to all substances together. Not allowed to expose to more than 2 or 3 hazards! ?

mechanism = physiological change activated by stress precursors of disease

- Selye strain hypophysis adrenal

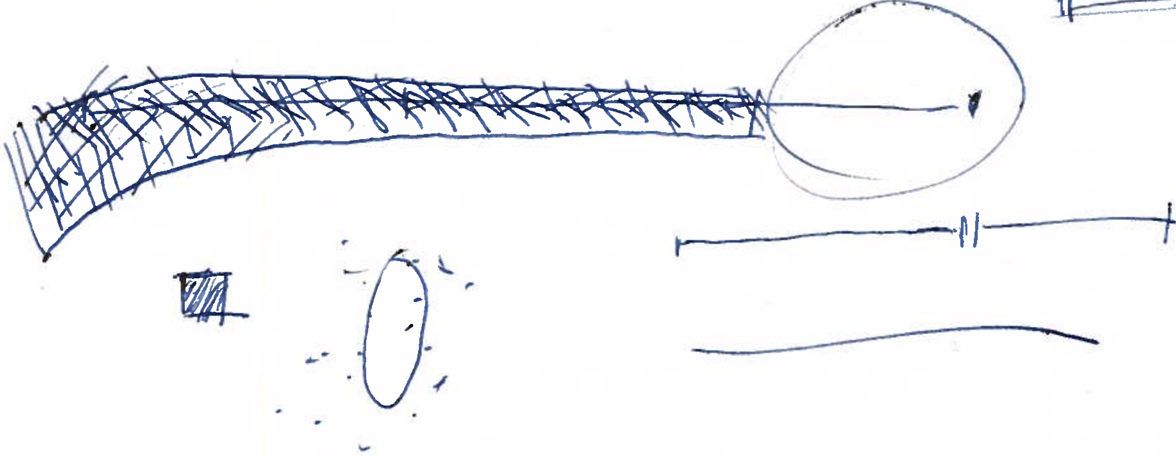
excretion of catecholamine and corticoids.

- raised blood pressure
- anxiety
- [illegible]
- diseases of the arteries.. [illegible]
- increased blood sugar..



different psychobiological programme.

- genetic difference in production of stress hormones.
- education ~~in exp~~ role in perception of stimuli.
- teaching of psychobiological programme.

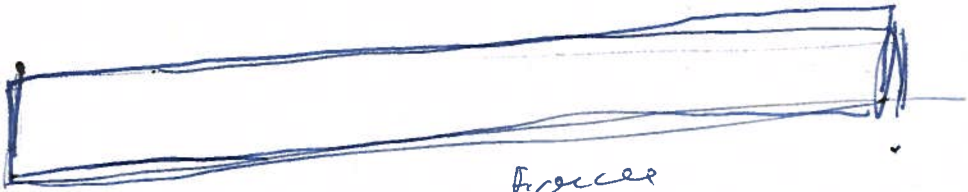


- number and intensity of stress conduct to disease.
- measuring satisfaction → evaluation of situation
- stressors are always dangerous

stimuli ~~stress~~ are dangerous if they endure Selye stress.

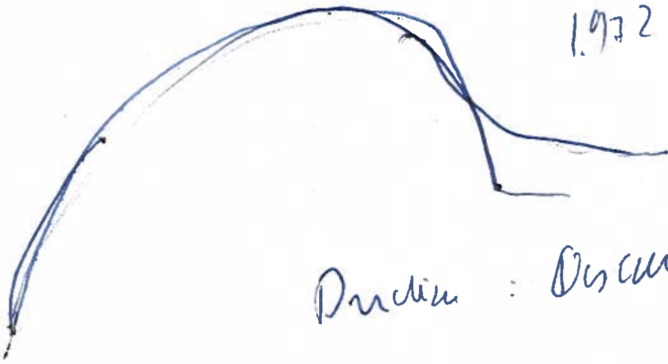
OSCARSON

~~Götene~~ Göteborg   PETERSÉN Ingmar
neurophysiologist of work
welding workers.
static load   E.M.G   Göta werke



Visit of Sweden in France

Fonds de Recherche
1972 – Formation
– Information
Juin 73



Direction : Oscarson

Priorities
Research of applied character
Recherchement for medicine → basic research in [illegible]
[illegible]

Money → Cost for production
for employer (private and not state and man state)
total salaries 20.000 25 millions
0,03 %
and now → 75.000 . 80 millions
0,1 %
→ 0,075
→ 0,025 Institute of hygiene.

Committee – existing research
– needs
– possibilities.

Idly. programme 25 millions. engaged

Working committee back in jinxes.

9 people. – orthopedic editor
– industrial physician
– prevention engineer.

music prog.:
mix
practice
director

August 72 → July 73

seminar for qualified workers.

Planning of new plants

les délégués à la recherche doivent avoir le droit de voir les plans. Recevoir les facteurs industriels plans.

Priority die applied research

follow application explanation. and control

repeat investment.

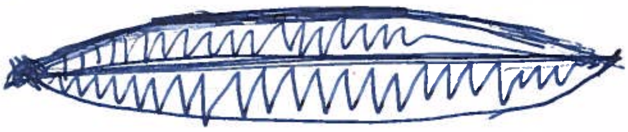
Dust problems in plastics – New system of elimination

prototype → giving money to one plastic plant 50%
25 working places

[illegible] and evaluation

100.000

PR = Aubry KAGAN WHO (G.B) at lomment LEVI



ÄBERG →

Discussion on artificial situation in piece work

experiment by LEVI Have a skin

But it is a skin.

Keep industrial connection

Post year date backing only remission for dedication

New dedication 80 points

12 remission 3.4 hours 5 points

Thesis experimental work
with 40 points in your field

Basic of engineering of a new steel mill

first reconstruction of work places

colin → 60 ormplacions

Dont say it is not good → selection

Council for nationalization of work : corporation

group employer - union : booklet : approach of

ergonomics. BOLINDER ÄBERG

Ergonomi och arbetsutformning

Arbetsmedicinska skrifter 1970

cause factors

definition of technological research.

John WOODWARD

Human relations at Work

McGraw Hill

Industrial organization Theory and Practice

OXFORD

Description

Analyse → Solution (15')

Intervention

A Company with just few experience of its needs

i) SERT

Magnificent poster ARBETSMILJÖ L.O.

Shall people practise → Noise
→ Payment
→ Time

~~Le Monde~~

~~lettre à prendre~~

~~à écrire~~

~~tel Pelisson~~

INVER GÖRN

Foundation ~~Institute for applied~~

→ ERGOLAB (more private)

→ INSTITUTE for applied ergonomics — 1 1/2 million ... 10 people very able

benefits →

→ industrial engineering (Healey Vauhdeley)

→ human sciences and of long labour... (with KIRK) SPLD

check out system in ... → 2 million 13-14 people.

- Communication ergonomics (KIRK)
offices - computers

- Manual ergonomics
mechanical industry
including - environmental heat, noise, lighting, chemical
- physical and psychological strain

- Large research grants 1/2 million ...
ship ergonomics ...

Institute KARVONEN

– KARVONEN after W. W II – carbon monoxide toxicology
– heavy physical work (trees for [illegible] pay [illegible] repair lumbago etc)
– private basis non profit organisation.
– growing interests
– market gives lines of development
→ public health
→ rehabilitation.
→ environment
→ working environment
– now: our own politics
bottle neck: people not resources, not demand

Not only research, but also advices (to sale) publish books, journals. Services.
to transfer researchers to information work

Departments – medical
Central clinic for occupational disease (all country) diagnosis, expert. lot of firms (place of training) 25.000 workers. reducing and then it will disappear.

experts in occupational health
specialist in work ophtalmology
dermatology
physiotherapists
rehabilitation (former [illegible])
– Technical hygiene (H. Lehtinen) recent enlargement
– Toxicology and biochemistry – environmental pollution (transferred →) – analysis of samples

- Research in industrial toxicology (beginning)

related body project

Physiological department — ergonomics; industrial safety; clinical physiology; exercise physiology; physiatry

Psychological department — test job placement
(IMMO HANNINEN) — clinical + (toxicology) toxicopsychology; behavioral +

Epidemiology and biostatistics
- medical epidemiologists
- biostatistician.

Library services

Branches in the country (5) Technical hygiene measurement

Training education in University.

Institute 500 persons.

Board 18 year → 10
labour market organisation → 8 - health
- management
- civil servants
- University
-

5 min/an local
15 gun bureau
day day [illegible]

25.000.000 F.M.

9.000.000 public
16.000.000 activity

MRS KARJALAINEN   Central organization work inspection.   28

Report of labour protection (non inspection)
all research - studies - and safety
- occupational hygiene
- working conditions

- disorganised system
- moderate ambitions   research on minor details

Research register with computer system

422 protection researches since 1970

even minor researches.

short magazine article.

lot of researches for graduation (master & m....)

Activity has not be concentrated but disseminated in

lot of universities.

adaptation - goals - development

discussion   applied research.

need by industrial enterprises in labour protection
- measurements

Budget National Board

→ 120.000 FM

→ 500.000 FM

Protection at work not of worker

KOSKELA - education ~~....~~ moving information
- change of the system. If no change in floor no succes
- individual judgment by themself

- development of intellectual activities
- shorten the time between research and floor
- Follow what happens → success / → no effect failure reason?

correlation amount of education given and effects — 1 week even → few suggestions — 4 weeks results suggestions

1 → 100 suggestions

- takes time → 1 year
- good team work → organisation / → workers // good social atmosphere
- positive attitude of organization — different faculties: - medical education - engineering - representatives of workers.

Small changes.

---

workers has to understand information
how do you know he understands → suggestions.

physiotherapist helps tymerer [illegible]

line d'organisme 5,000

---

continuous contacts with former students
5 times a year information booklet

9 people + physiotherapist ½ dozen

paper in physiotherapist magazine.

---

need participation to decision making from leaders.
advisers for criticism.

LEHTINEN

during first 10 years only 5 peoples.
10 years ago growing biochemistry transfer.

05.70 14 people

1969 social insurance giving money

43 people 1974

3-4 industrial hygienists every year.
general education in industrial hygiene
specialization.

> one year study apparatus specialized physicians

" ventilation

" chemistry

Guide to inspection of machine (paper machine)

Project : Foundries
- 20 underproject
- price : 1000 expenses

limit the number of projects
of " " of factories | choose the project

No dust, chemical, medical and vital statistics.)

1st project

Noise and vibration in stone work
statistical.

Measurement and suggestions

Preparing a new foundry only little

Mr ~~KARJALAINEN~~ HANNINEN

- physical chemical
- social
- work itself

|| stress and satisfaction

Well being mental health all aspects

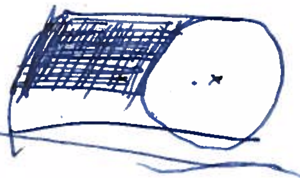
different aspects
or → certain occupation ← what is the most important ?
global approach

behavioural and ψ of several hazards.

1st diagnosis service
connection with clinical studies

effects of carbon disulfide, in construction solvents on ψ

Shift work – subjective symptoms
– social effects
– ~~physiological~~ medical functions



Epidemiology occupational health

Nov Dec → 1975 – teaching of epidemiology occupational health
O. MIETTIENEN (HARVARD)
→ french and russian speaking countries (12)
HELSINKI 3 weeks.

Jan Feb → 1976
→ in their countries F. RI SHAGUIR

– analyze each aspects to be able to understand
– global aspects

people intoxicated lead, CS_2

validation of tests with factor analysis | batteries for different agents
– personnel
– exposed
– non exposed

~~Fatigue~~

Typical pattern for [illegible] → ψ motor / → emotional / → vigilance → RORSCHACH scoring / → colour preference.

Intravenous induction
poisoning.

followed by clinical control   long term effects

Progress of effects after exposure

Social isolation : not the same as before..

---

effect of work of women on children

ψ logue
epidemiology of drugs in industry

---

danger of solvents + alcohol

---

bus driver : all kinds of drugs

---

absenteeism   general situation...

different types of absenteeism.
médecin ψ médicaux, psychiatrique, par l'enquête.

19.4.74

DGRST full-time research working condition

detailed programme or plan

Special projects to decide

Academy of Finland C.N.R.S.

→ distribution of money to existing body

/ Research council

15 full research professorship

300 researchers. 4 degrees

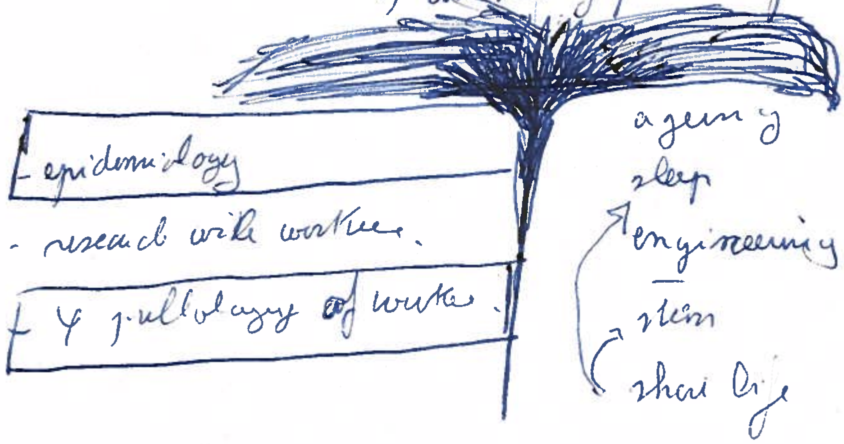
give full time research position coming from area with higher priority

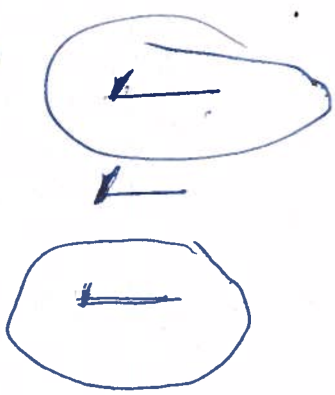
University department consultation for research work.

3-4 years.

after → new appointment 5 years → 5 years

→ university position - permanent and well paid



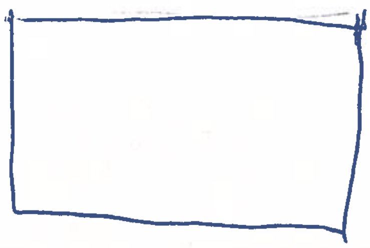


too many general hygiene. epidemiology

Research in organisation change nothing

Methodology of research in working condition

you cannot buy it



Improved view of workers (JNVASICULAI

Publishing pamphlets for workers.

P? OPESCALCHI invitation

Special situations in working areas difficult
all other medical situations

M^r RAMBERG

Institute of Work

work φ

ψ

occupational health M^r Ramberg clinic (medical dep)

3 physicians // Research work

Service dr. industry

Ramberg Physiotherapist → work physiology

Lange Andersen Special Institute Work physiology

today 13th BRUUSGAARD HELLSTRÖM

IBP International Biological Project / Project

Head Institute FÖR NORSETO

K. WÜLLEERT toxicology

R^H GULOWSEN → THORSRUD build up Institute

engineer → ψ

since 2 years more free

Ship projects

M^{rs} PRÜETT Work Physiology

PR Kåre Rodahl. → head Institute Work Physiology

Schools for physiotherapists

State Physiotherapist school

MENSENDIECK Physiotherapy school

Small group of Gymnasium → school

industry

Courses to complete education

school doctor chairs, pause gymnastics

~~learn~~ teach children T ... class

good posture write and read

courses for Gymnastics teacher.

Physiotherapists full time in big industries (14 yrs)
part time

inspection of work position
treatment
gymnastics

Her work Max Oxygen Uptake big groups - heavy workers
- [illegible]
- over 50 years

very good results with physical condition [illegible] elderly

workers 50 as young physically as 20
- old women

effects of training in maintaining physical abilities in elderly people
better medical conditions Tread mill 3 times a week

each time (-> Lange Andersen)

Her young in industry welders in shipyard EMG

Practical analysis
Dust analysis } -> relation ? yes electrode burning
closer close to
welding point

New type of welding pistol bigger distance.

Lot of teaching working leaders low level
- groups for safety in industry sent by union.
- safety for the chiefs in safety

Thursday
11^H 14^H Porsetti

12^H Gulbrandsen

Tharsmed
Union?

Friday

13^H Brunsgaard

ROPPA 72

boor Man in isolation and environment EMG

Project norwegian. in research.

Big risk taken for pay

only extra pay

homozygous population management - works good

GEIGY Scientific Tables

Metabolic field. Hormone regulation of energy

Alaska 8

— Nicolai Hegde 8

— California 2

GULOWSON

Industrial Democracy Project → Union

→ Manager.

— Introduce leading Technical University TRONDHEIM

→ Industrial economics and organization Institute

→ Ergonomics

→ Institute Industrial social

→ Group dynamics

Organization theory

these decisions were not accepted → refused → people moved to OSLO

Institute of Industrial Psychology (Sweden)

Trade Unions wanted democracy in Industry also

more power in company

general education in industry

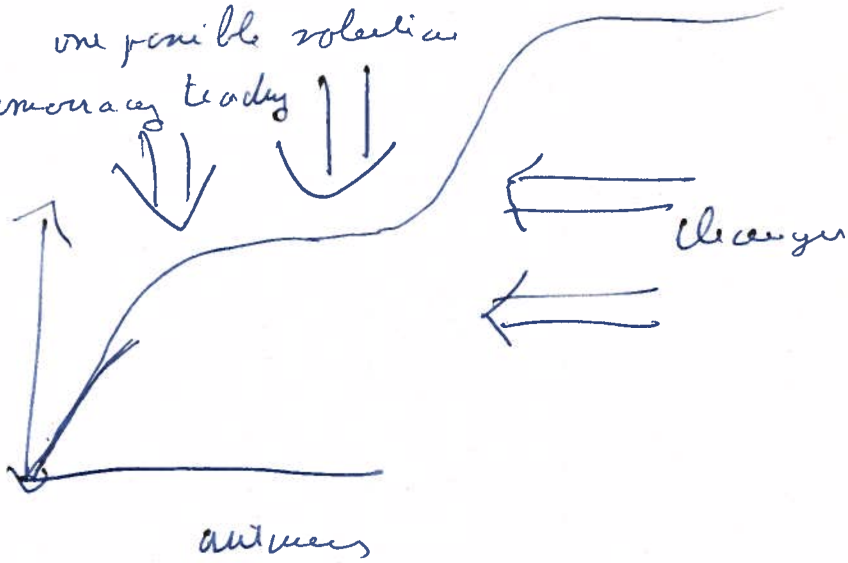
Release [human resources] in industry

Autonomous work groups — one possible solution

Autonomy → democracy today

Individual growth ↗

Competence



managers want competence

NORSK HYDRO ↗ competence   Autonomy →

Book with description by GULAWSON

No change in power in Norwegian society until now

improvement higher job satisfaction.

load (personnel) ~~area~~ economy

good equilibrium in groups.

Responsibility of unions. on urging and backing

Union look at competence of groups.

Presence of strong union very important for industrial

experience .. on democracy

Strong union → judgement → stronger union

14 caliid experiments 0520 or other areas populate (41)
heavily populated central area. (C)
spread out peripheral P

(Skilled male) (30.50) workers primary

SPW

(~~secondary~~ primary male ~~you~~ unskilled) UPW

(female handicapped secondary) SW

	SPW	UPW	SW
C	4(0)	5(4)	1(0)
P	3(0)	0	1(0)

~~(unsucc)~~ (0) unsucces

S is good
U is bad weak union
(high labour turnover)
bad long term condition

When good easily to loose lab

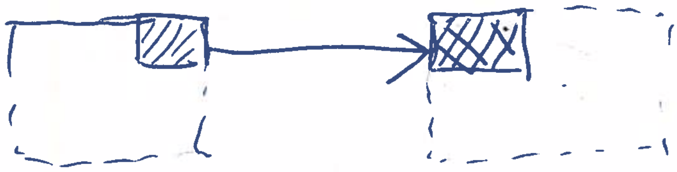
Volvo way – change technology
→ skilled jobs (move from UPW to SPW)

– change location. people cannot change
weak union no move
no change

– have female and foreigner.
weak union
little tradition

Participation project among worker pole
good strategy with good working condition

—



Expansion of concepts – autonomy – job enrichment) conditions
– union
– company and society → municipality

moving worker – living and working in oslo
– walking in oslo
// little connection at work → industrial democracy difficult (recruitment)

—

Electrical Heaters – strong labour tradition
– houses in neighbourhood and strong relation outside
– small business.

—

1 ~~[illegible]~~ big company in small town
3 or 4 small ''

—

connection between local and industrial democracy
decision in OSLO or NEW-YORK

—

— Management by objectives → regulation by boundary control my 43.44.45

~~Automonitored~~

— Autonomous groups → yes and no powerful unions.

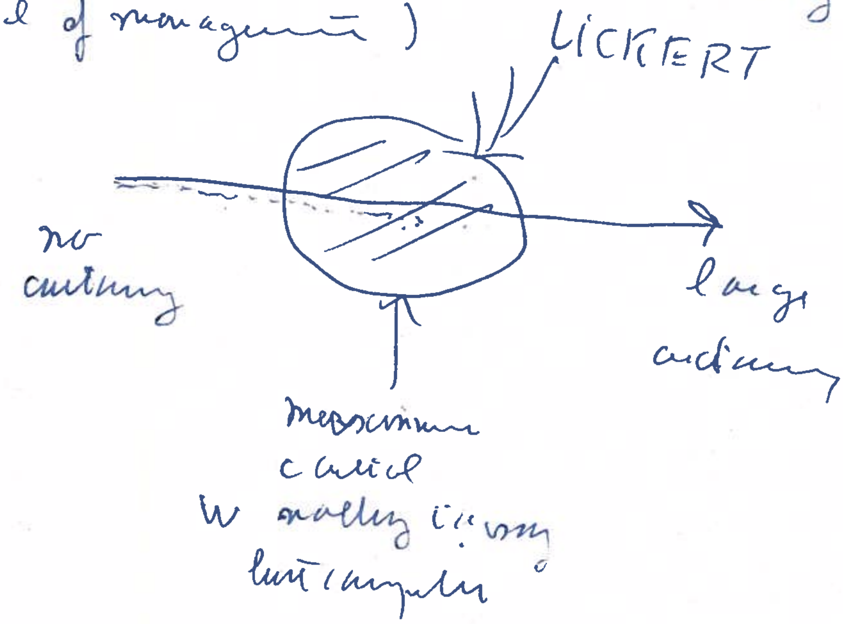
No project reducing bargaining power

p 387 design of work

—

Autonomy ~~to~~ onedimension

LICKERT advocate limited autonomy (no assume control of management)



Industrial democracy is not only autonomous groups

New laws → Select members of company boards [1/3 workers, 2/3 shareholders]

general law → local
←

– Research in small units without monoculture city

– small scale 20 people — 100 production units

in Finland ~~200~~ 300 people)

– relation between dimension of production and society.

Sociotechnical view

Aluminium Plant near Oslo
because it is too big for something because

Technology for small units

Intermediate technology development

Technology for developing countries | E.F. SCHUMACHER

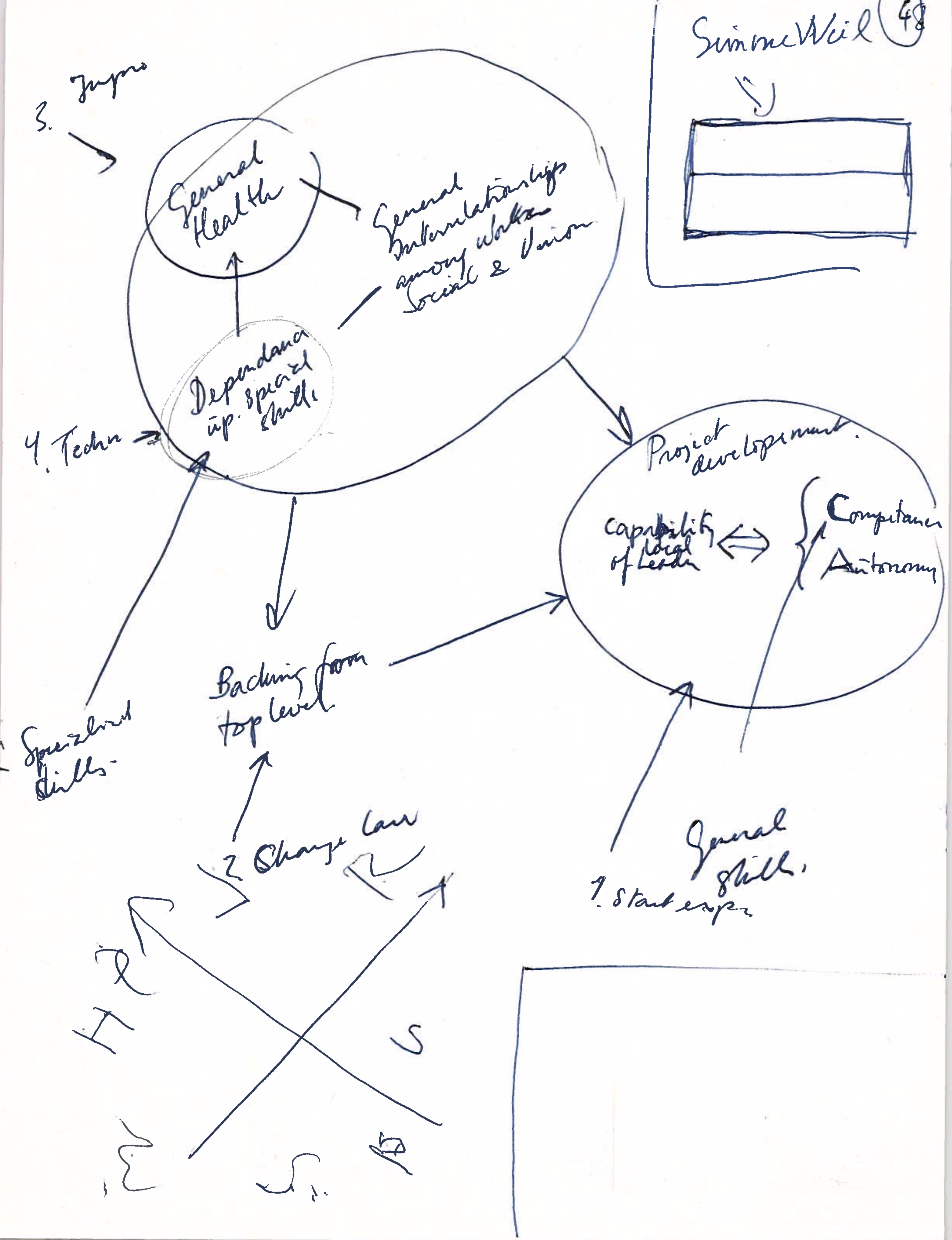
Small is beautiful 1.973

Visit in Paris

Penguin EMERY Systems Thinking

4.5 July

1-2-3. July
Monday Tuesday Wednesday


SimoneWeil
3. Impro
General Health
General Interrelationships among Workers Social & Union
Dependance up. special skills
4. Techn
Project development.
capability of local Leader
Competance
Autonomy
Backing from top level
Specialized skills
2. Change law
General skill.
1. Start exper

Sociotechnology Woodward

Odexaldi paper by him

→

Emery in Australia

Institute of work psychology | Dr HELLSTROM
Institute of Aviation Medicine

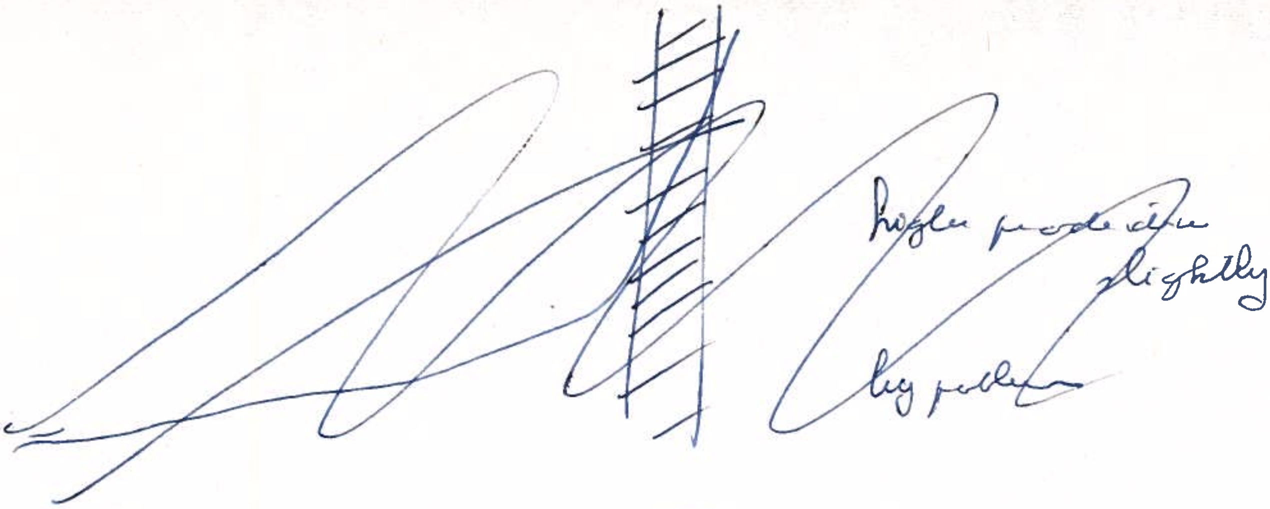
Dr BROUSGAARD ←
FORET → Wilkin

Action research : the workers are right
All the factors influencing the workers. health than modern
Health in basement, backyard
swedish industry
- communication problem : be in a group

How you feel — motivation — mental problems
new work and environmental law
↳ piece work
↳ type of payment | give advice

Monthly paid in KIRUNA number of serious accidents ↓ 95%
middle ↳ 45%
small ↗ 25%

they lead time
production stable?



old workers 50 → 40 increased tempo

No job for elderly   double pension before pension age

they cannot follow.   Kicked out production group

not worn out by work

repairing handicapped at work

what are their abilities?   Rehabilitation group   50% production

in a day or in one half day.   ½ pay rest by social insurance.

even on pension for years → same condition.

Change in work place – Who pays? Insurance company 50% of cost

unofficial agreement not yet law

Prolonged holidays for elderly people

official retiring 67 – No reason to ~~take~~ kick out due to age

under 70.

higher pension 9% per year 67 – 70

HELLSTROM

Rehabilitation is called : physical ability

pain

Ulcerative   Ombudjiadu   white fingers
Pregnant
epidemiological study of dead fingers.

Brunsgaard and Gulbrandsen
Reserve on semi independent

good to be in a good primary group

good to have a boss

Who is responsible of the group.
depends ~~of~~ cases who is the leader.

Satisfaction in ~~my~~ new system

Beginning of worker on things that until now have been decided up their heads.

Special safety worker can be employed by work inspection

---

aaw.0062(3)

NORVEGE

WORK RESEARCH INSTITUTES
GYDAS VEI 8 - P.O. BOX 8149, OSLO-DEP, OSLO 1
TELEPHONE 02-46 68 50

Prof. A Wisner
Laboratoire de Physiologie du Travail
Ergonomie Conservatoire National des Arts et Métiers
41 rue Gay-Lussac
Paris 5ème
Frankrike.

August 20th, 1974.

Dear Friend.

Thanks for your kind reception in Paris. I enjoyed the stay thoroughly. I promised to send you a copy of my latest English version of the Norsk Hydro case, which I hereby include.

Looking forward to seeing you, I remain

Yours

Jon Gulowsen.

aaw.0062(4)

Finlande

DANEMARK –

SEPARATUM
ACTA OPHTHALMOLOGICA

SELECTIVE EFFECT OF A NEW ANTITUBERCULOUS DRUG, RIFAMPICIN, ON THE c-WAVE OF THE SHEEP ELECTRORETINOGRAM

BY

BENGT KNAVE, HANS E. PERSSON, BERIT CALISSENDORFF
and SVEN ERIK G. NILSSON

MUNKSGAARD
COPENHAGEN 1973

ACTA OPHTHALMOLOGICA VOL. 51 1973

The Departments of Physiology II and Ophthalmology,
Karolinska Institutet, 104 01 Stockholm 60, The Department of Ophthalmology,
Linköping University, S-581 85 Linköping and
the National Board of Occupational Safety and Health, 100 26 Stockholm, Sweden

SELECTIVE EFFECT OF A NEW ANTITUBERCULOUS DRUG, RIFAMPICIN, ON THE c-WAVE OF THE SHEEP ELECTRORETINOGRAM

BY

BENGT KNAVE, HANS E. PERSSON, BERIT CALISSENDORFF
and SVEN ERIK G. NILSSON

Key words: rifampicin – antituberculous drug – sheep – electroretinography – retinal – pigment epithelium.

Quite recently it was found that i.v. injections of ^{14}C-labelled rifampicin gave rise to marked radioactivity in the uveal tract (and presumably in the pigment epithelium) of the pigmented mouse (Boman 1973). This finding contrasted to the faint radioactivity obtained in the albino mouse. The difference in distribution pattern of ^{14}C-labelled rifampicin between pigmented and albino mice was interpreted as being due to an affinity to melanin in the uvea and the pigment epithelial cells of the pigmented mouse retina.

Recently an ERG method was developed which allowed studies of the slow components of the sheep ERG (Knave, Møller & Persson 1972). One of these slow components in the *c*-wave, which is known to reflect the activity of the pigment epithelial cells in vertebrate retinas (Noell 1953, Brown & Wiesel

This work was supported by grants from the Swedish Medical Research Council (no. 04X–3119 and 12X–734) and the Magn. Bergwall Foundation.

Received April 9, 1973.

1961, Steinberg, Schmidt & Brown 1970). Furthermore, it has been shown in electron microscopic studies that pigment epithelial cells of the sheep retina, except those within the tapetal area, contain melanin granules (Leure-DuPree 1968, Nilsson, Knave, Persson & Lunt 1973).

Against this background we considered it pertinent to apply the above-mentioned ERG technique to functional studies of the effects of rifampicin. The present communication reports the effects on the dark-adapted ERG after i.v. administration of single doses of rifampicin.

Figs. 1A and B show ERGs of the dark-adapted sheep eye in response to a one-sec-light stimulus with an intensity 4.0 log units above the *b*-wave threshold. The *a*-wave followed by the *b*-wave are seen immediately after onset of stimulus. More than half a second after cessation of light the slow *c*-wave reaches its peak amplitude.

In Fig. 2 the ERG amplitudes of the dark-adapted eye have been plotted for a time period of 280 min (upper trace: *b*-wave; middle trace: *c*-wave; lower trace: *a*-wave). After 104 min (arrows) and 168 min (arrows), 20 and 40 mg/kg b.w. rifampicin, respectively, were injected intravenously. Before the first injection the *a*- and *b*-wave amplitudes were found to be more or less constant, whereas that of the *c*-wave oscillated with a frequency of about 2/hour. As can be seen in the diagram, these oscillations seem to be superimposed upon a much slower oscillation (frequency of about 0.5/hour).

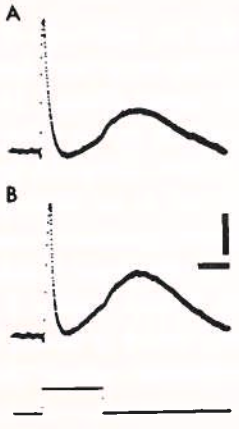


Fig. 1.
The ERG of the dark-adapted sheep eye, recorded 80 min before (A) and 10 min after (B) i.v. injection of 20 mg/kg b.w. rifampicin. Amplitude calibration: 250 μV. Time calibration: 0.5 sec.

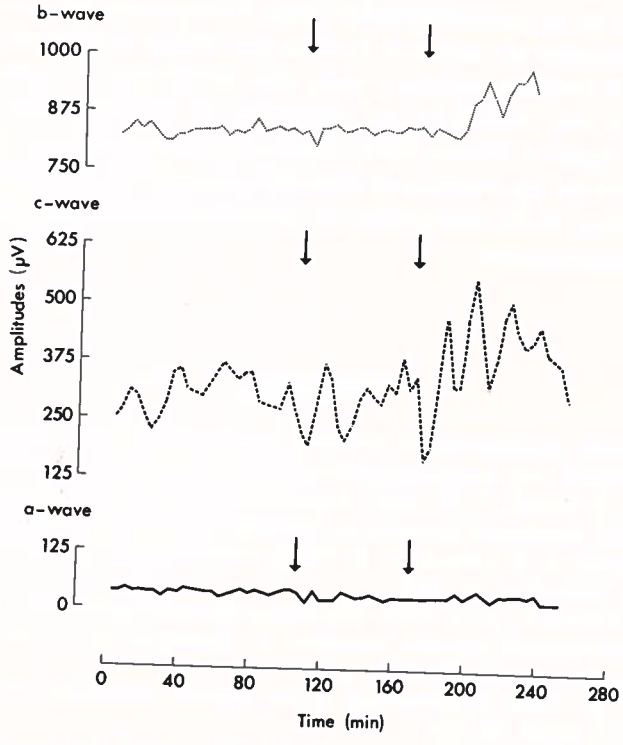


Fig. 2.
Effects of rifampicin on the *a*- (solid line), *b*- (dotted line) and *c*-wave (broken line) of the dark-adapted sheep ERG. After 104 min (arrows) and 168 min (arrows) 20 and 40 mg/kg b.w. rifampicin, respectively, were injected intravenously.

After the injections of rifampicin, the faster of these *c*-wave oscillations increased in amplitude but did not change in frequency. A dose-response effect was noted; the larger dose (40 mg/kg b.w.) resulted in large oscillations varying in amplitude from about 200 to about 550 μV. No effects were recorded in the *a*-wave, and the *b*-wave amplitude did not change until about 25 min after the second, large dose. At this moment the *b*-wave amplitude increased and the observations at the end of the experiment indicated amplitude oscillations similar to those of the *c*-wave.

Thus, single i.v. injections of 20–40 mg/kg b.w. rifampicin result in selective effects on pigment epithelial cell activity, as judged by the selective effects on the *c*-wave of the sheep ERG. In this way, the present report may serve as a functional confirmation of the melanin affinity of rifampicin, suggested by

Boman (1973) in an autoradiographic study. Furthermore, the present results point to the necessity of studies on the long-term effects of the drug, especially since standard treatment implies a daily dose of 600 mg (10 mg/kg b.w.) for 1.5–2 years. A new method for d.c. registration of the human ERG has been developed by Knave & Nilsson (1973). It seems that this method will be of value in clinical work for the detection of early side effects on the pigment epithelium (prior to damage to the neuroretina) of certain drugs, i.e. rifampicin, chloroquine and chlorpromazine.

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HANDICAPES

SUE DE

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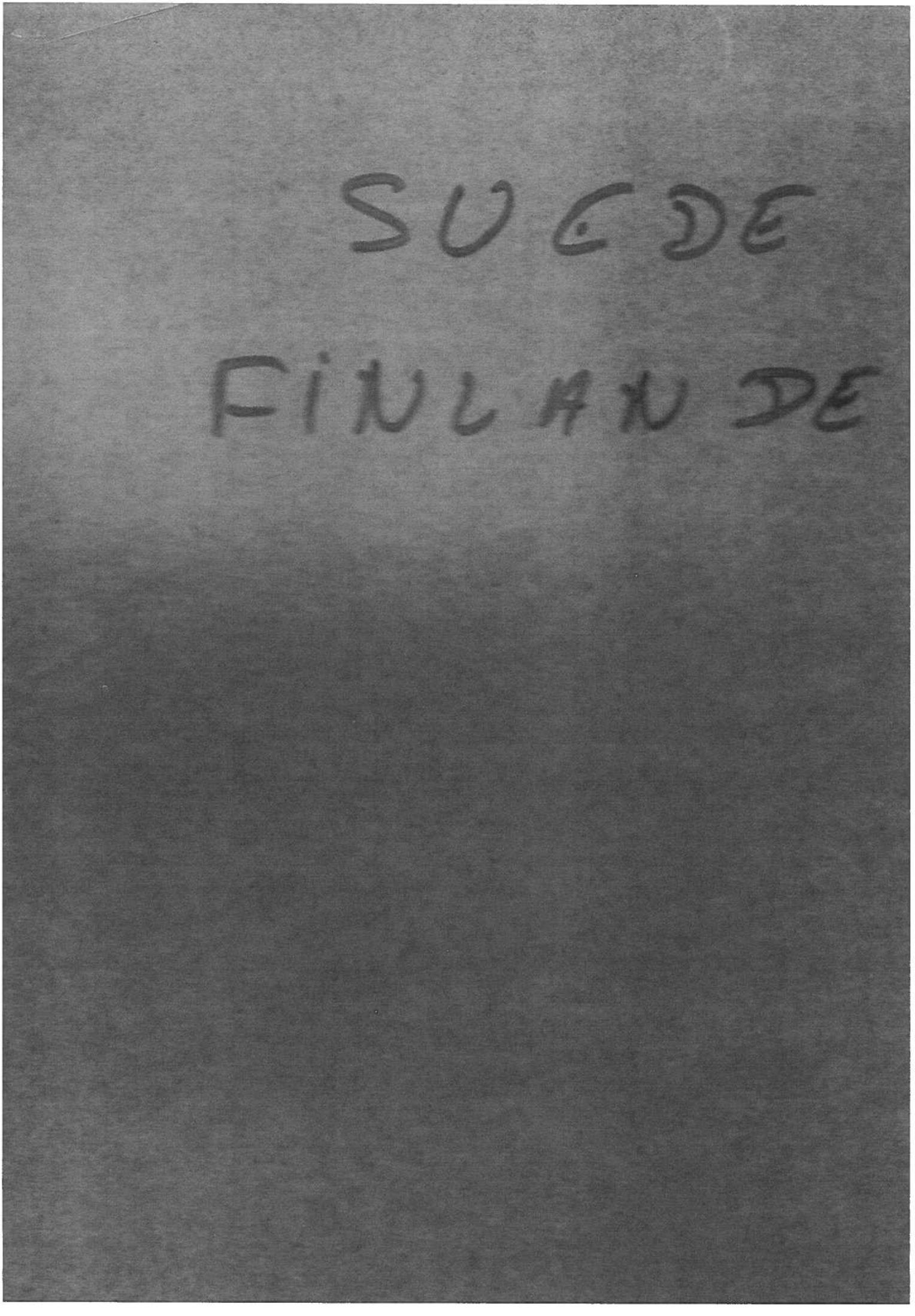
SUCDE
FINLANDE

1er Avril 1974

Monsieur Nils F Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S 100 26 STOCKHOLM 34
(Suède)

Cher ami,

Comme vous le verrez sur le programme ci-joint, je pense arriver le mardi 9 Avril à Stockholm à 12 h 25, par le vol SAS 608, ce qui doit laisser du temps pour des rencontres le mardi après-midi.

En cas de difficultés, je vous appellerais de Copenhague.

En attendant le plaisir de vous revoir, je vous adresse toutes mes amitiés.

A. Wisner

KUNGL ARBETARSKYDDSSTYRELSEN
ARBETSMEDICINSKA AVDELNINGEN

Handläggare

Datum 26 Mars 1974

Vår beteckning

Edert datum

Eder beteckning

Monsieur le Directeur
Professeur A WISNER
41, rue Gay-Lussac
75005 Paris Frankrike

Cher Monsieur,

Je vous remercie de votre lettre du 19 Mars.
Je me permets de vous deranger encore une fois avec une derniere petite question. Quand et ou est-ce que vous arrivez mardi le 9 Avril? Par avion, flight number ou par train?
En attandant votre arrivé avec impatience je vous prie d'agréer, cher Monsieur, l'expression de mes sentiments les meilleurs.

Nils F Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S - 100 26 Stockholm 34

Postadress
Fack
100 26 STOCKHOLM 34

Gatuadress
Industrivägen 13
Solna

Telefon
08-23 69 00

Telegramadress
Occuphealth

A 5

SUEDE

L'USINE VOLVO A KALMAR

1°) - Une réponse à des nécessités d'aménagement du territoire suédois
- Une population ouvrière qui a été à l'école jusqu'à 18 ans
- Une usine de carrosserie-montage pour voitures de luxe

2°) - Une analyse psycho-sociologique et ergonomique
- Une combinaison de solutions des critères sociaux et économiques

3°) - Bruit, éclairage, climatisation
- Postures. Présentation des portes et des carrosseries
- Chariots autonomes et manutention
- Sécurité (heurtoir des chariots)

4°) - Groupes de 15 à 20 travailleurs échangeant leur tâche ou spécialisés
- Un encadrement léger de deux agents de maîtrise pour deux groupes
- Enrichissement des tâches et écrasement de la hiérarchie

5°) - L'ordinateur central
- Programmation et contrôle
- Big brother

6°) - Locaux sociaux
- Formes polygonales, impossibilité d'extension
- Travail en deux équipes

-=-=-=-=-=-=-

CENTRE CULTUREL SUÉDOIS

11, RUE PAYENNE
75 PARIS-IIIe
Tel. 272 87-50 · 277 77-30 · 277 72-47
Telex: SWEDINS 68757 F

VERS UNE ORGANISATION PLUS HUMAINE DU TRAVAIL DANS LA SOCIETE INDUSTRIELLE

Journées d'études franco-suédoises 21 et 22 mai 1975

En 1971, le congrès de la Confédération du Travail de Suède (LO) a marqué un tournant de la politique suédoise. Sous le signe de la "démocratie industrielle", un grand nombre d'expériences et de réalisations dans les entreprises ont visé à accroître l'influence des travailleurs sur les lieux de travail. Cette action a été renforcée et complétée au plan national par une succession de lois concernant la réforme de l'entreprise et l'amélioration des conditions de travail. Un débat d'une grande portée est engagée sur ce qu'il est convenu d'appeler les prérogatives traditionnelles de la direction en matière de recrutement, de licenciement, d'organisation et de répartition du travail (article 32 des statuts de l'Administration suédoise du patronat, SAF).

En France également, la réforme de l'entreprise suscite un intérêt considérable dans la ligne du rapport de la Commission Sudreau et l'amélioration des conditions de travail est considérée comme un problème prioritaire.

Une confrontation franco-suédoise à propos de ces divers problèmes, qui ne se posent d'ailleurs pas toujours dans les mêmes termes dans les deux pays, nous a donc semblé particulièrement opportune.

Les deux journées se dérouleront selon le programme suivant:

Mercredi 21 mai 1975

Sous la présidence de M. Jacques DELORS, professeur au Centre Universitaire Dauphine, qui, avec quelques autres français vient d'effectuer un voyage d'études en Suède.

9h30 - Exposé introductif sur la Suède et la politique sociale suédoise depuis 1971 par M. Carl LIDBOM, Ministre d'Etat. Il sera consacré aux récents développements de la politique sociale suédoise et constituera une toile de fond des débats qui suivront.

10h45 à midi et 14h à 17h - Débat et interrogations autour de la démocratie industrielle

Un panel composé de représentants de l'Administration suédoise, du Patronat et des Syndicats LO et TCO (Confédération des fonctionnaires et employés) répondra à un ensemble de questions soulevées par M. DELORS. M. François LAGRANCE, rapporteur général de la Commission Sudreau, participera au débat, qui sera naturellement ouvert à tous les auditeurs présents.

Jeudi 22 mai 1975

Cette journée sera placée sous la présidence de M. Yves DELAMOTTE, Directeur de l'Agence nationale pour l'amélioration des conditions de travail, qui vient également de passer quelque temps en Suède.

9h30 à midi - La politique de l'hygiène et de la sécurité du travail

Après des exposés introductifs suédois illustrés de court-métrages, M. Michel REZEAU, Directeur adjoint chargé du Service du travail au Ministère du travail, qui a participé au voyage d'études précité, fera part de ses observations sur la politique suédoise avec références à la politique menée en France dans le même domaine. Un débat général suivra.

14h à 17h - L'amélioration des conditions de travail

Le problème sera approché à travers la législation récente et les expériences menées dans les entreprises.
Après un exposé introductif de M. DELAMOTTE, qui donnera son point de vue sur les réalisations menées dans les entreprises suédoises et comparera les démarches suivies en France et en Suède, un débat aura lieu auquel participeront notamment des employeurs et des syndicalistes des deux pays.

Le Centre Culturel Suédois a l'honneur et le plaisir de vous inviter à prendre part à ces journées d'études en vous demandant de bien vouloir remplir et renvoyer le bulletin d'inscription ci-joint le plus rapidement possible.

Participants de la Suède au colloque "Vers une organisation plus humaine du travail dans la société industrielle".

M. Carl LIDBOM, Ministre d'Etat

M. Lage ANDREASSON, représentant de la Confédération du Travail de Suède, (LO)

M. Stig GUSTAFSSON, député, Conseiller juridique de la Confédération des fonctionnaires et employés (TCO)

M. Olle HAMMARSTRÖM, Chef de division au Ministère du Marché du travail

M. Reine HANSSON, docteur ès sciences, directeur de recherche du Conseil de l'Administration du personnel ainsi que du Conseil du développement

M. Sven KVARNSTRÖM, président de l'Association des médecins d'entreprises

M. Gunnar LINDSTRÖM, Directeur de l'Administration suédoise du patronat, (SAF)

M. Krister NEDSTRÖM, Directeur de l'information aux Usines Volvo de Kalmar

M. Jan Peder NORSTEDT, ingénieur, représentant de l'Administration suédoise du patronat (SAF)

M. Gerhard WIKREN, Conseiller adjoint à la Cour d'appel, représentant du Ministère du Marché du Travail

Un délégué syndical des Usines Volvo de Kalmar

VERS UNE ORGANISATION PLUS HUMAINE DU TRAVAIL DANS LA SOCIETE INDUSTRIELLE

NOM :

FONCTION :

ORGANISME :

ADRESSE :

TELEPHONE :

ASSISTERA AU COLLOQUE

Mercredi 21 mai	9h30	oui	-	non
	14h	oui	-	non
Jeudi 22 mai	9h30	oui	-	non
	14h	oui	-	non

N'ASSISTERA PAS AU COLLOQUE

SERA REPRESENTE PAR :

BULLETIN DE REPONSE A RETOURNER AVANT LE 6 MAI AU
Centre Culturel Suédois
11 rue Payenne
75003 PARIS

4 Avril 1974

Monsieur le Professeur Lennart Levi
Laboratory for clinical stress research
FACK
S.104 01 STOCKHOLM 60

Mon cher collègue,

Je suis très sensible à l'envoi que vous m'avez fait de documents provenant de votre laboratoire. Ils vont me permettre de préparer la visite que je dois vous faire le jeudi 11 Avril à 9 heures et dont j'attends beaucoup pour mon enquête.

Je vous prie de recevoir, mon cher collègue, l'expression de mes sentiments dévoués.

A. Wisner

LABORATORY FOR CLINICAL STRESS RESEARCH

FACK,
S-104 01 STOCKHOLM 60 SWEDEN

Date March 28, 1974

WHO
INTERNATIONAL RESEARCH AND TRAINING CENTRE ON PSYCHOSOCIAL FACTORS AND HEALTH

Professor Alain Wisner
Lab. de Physiologie du Travail - Ergonomie
Conservatoire National des Arts et Métiers
41 rue Fay-Lussac
PARIS 5ème Frankrike

Your reference

Your date

Our reference
LL/gn:es

Our previous date

Dear Professor Wisner:

We have been informed of your visit to Stockholm 10-14th of April and would like to welcome you to visit the Laboratory for Clinical Stress Research on Thursday, April 11 at 9.00 a.m. Our address is Tomtebodavägen 7B, Solna.

The Laboratory for Clinical Stress Research has carried out some studies in psychosocial factors, occupation and health and is now preparing a more extensive programme in this field. I enclose a synopsis of past work of the laboratory and a press release on the designation of the laboratory as a World Health Organization Centre for Psychosocial Factors and Health.

Looking forward to meeting you in Stockholm.
Sincerely yours,

Lennart Levi, M.D.
Director

encl.

cc: N. F. Petersson, Kungl Arbetarskyddsstyrelsen, Stockholm

St. 9. Utgåva 2. 73-05 3000 ex

Affiliated to
Departments of Medicine and Psychiatry
Karolinska sjukhuset, Stockholm

Office address
(Mail address – see above)
Tomtebodavägen 7 B, Solna

Telephones (Stockholm)
337575, 336458
335972, 332283

Telegrams
stresslab
stockholm

National Giro account
502699-2

SUEDE

19 Mars 1974

Monsieur Nils Petersson
Amat
Arbetarskyddsstyrelsen
Fack
S-100 26 Stockholm 34

Cher ami,

Vous vous occupez vraiment à merveille de ce séjour, dont la date ne permet pas le maximum. Je crois que vous avez pris rendez-vous avec les personnes que je souhaitais voir, et je vous en suis très reconnaissant.

Tout ce que vous ferez, en complément du plan que vous m'avez adressé, sera bien fait.

Je vous demande, toutefois, de maintenir la réservation à l'Hôtel Plaza, mais je ne renonce pas à utiliser votre studio une nuit, si nous décidons de passer une très longue soirée à discuter.

Bien amicalement à vous.

A. Wisner

KUNGL ARBETARSKYDDSSTYRELSEN
ARBETSMEDICINSKA AVDELNINGEN

Handläggare

Datum 15.3.74

Vår beteckning

Edert datum

Eder beteckning

Monsieur le Directeur
Professeur A WISNER
41, rue Gay-Lussac
75005 PARIS Frankrike

Cher Monsieur,

Je vous remercie de votre lettre du 4 Mars.

Comme c'est la semaine de Paques que vous etes a Stockholm et beaucoup de monde part je m'ai permis de prearranger votre rendez-vous. Je vous envoie le programme. Ce n'est pas un programme fixe mais si vous voulez le changer je serais tres heureux si vous me l'ecrivez que je peux le changer avec les persons involves.

Je viens de parler avec Monsieur Åberg sur un seminaire par vous. Mais il nous parait difficile de trouver un date acceptable malgre que le seminaire sera tres precieux. Puisque votre but principale est de recevoir des informations des suedois et ne pas de nous donner l'informations j'ai trouve mieux d'arranger des rendez vous a mercredi. Si vous etes d'un autre opinion je changerai le programme avec plaisir.

Je viens de parler aves Monsieur Sjöflot a Norvege et il a promis de vous envoyer des adresse et de vous aider dans un extension que vous preferez.

Postadress
Fack
100 26 STOCKHOLM 34

Gatuadress
Industrivägen 13
Solna

Telefon
08-23 69 00

Telegramadress
Occuphealth

A 5

KUNGL ARBETARSKYDDSSTYRELSEN

J´ai reserve un chamme a Hotell Plaza, Biblioteksgatan 11, Stockholm. C´est a Stureplan et le prix par jour 65NF. Neanmoins je me permets de repeter ma proposition que vous pouvez habiter chez nous. Comme je dispose deux studio l´un sera reserve pour vous (c´est tout pres le centre).

Veuillez agréer, cher Monsieur, l´expression de mes sentiments très cordiaux.

Nils F Petersson
Amat
Arbetarskyddsstyrelsen
Fack
S-100 26 Stockholm 34

Hotell Plaza

Biblioteksgatan 11

Stockholm

Mardi 9 (midi) des persons a INRS (pas encore arrangéx)

Mergredi 10 + 0800 Jan Kronlund (jeune chercheur socio)

+ 1030 Anders Englund representant de CGT division de condition de travail (le Docteur Bolinder est absent tout la semaine)

+ 1400 Bertil Gardell psychologue de travail

Jeudi 11 + 0900 Lennart Levi chercheur de stress

+ 1130 Bo Oscarsson representant pour " Work envir onmental Foundation" (Åke Nilsson est absent)

Vendredi 12 Libre

Samedi 13 + 1200 Toni Ivergård

Monsieur le Directeur
Gunnar Danielsson
Arbetarskydds styrelsen
Fack
100 26 Stockholm 34

Monsieur le Directeur
Olle Gunnarsson
Arbetarskydds styrelsen
Fack
100 26 stockholm 34

Monsieur le Professeur
Nils Lundgren
AM
Arbetarskydds styrelsen
Fack
100 26 Stockholm 34

Commentaires (privées) :

Directeur pour "INRS" (suedois). President dans plusieurs organisations. Responsable pour les lois nouvelles dans le domain de securité de travail. Il doit savoir beaucoup sur les problemes de -80.

Adm.

Sous-directeur à "INRS". Il vient de la Confederation General des Travailleurs.

(Si vous n'avez pas la possibilité de voir Danielson).

Adm.

Je pense que ce n'est pas necessaire avec des commentaires. Il est depuis -72 directeur pour la departement du medecin de Travail (!) à "INRS" (donc sous le directeur Gunnar Danielson.)

Adm Rech

Monsieur

Arne Westlin

T

Arbetarskydds styrelsen

Fack

100 26 Stockholm 34

Directeur pour le ~~contrôle~~ département de surveillance (2) à "INRS" (sous le directeur G Danielsson) Aucune recherche.

(Le troisième (3) et dernier département à "INRS" est seulement administratif et donc moins interessant.)

Adm

Madame le Professeur

Irma Åstrand

AMA

Arbetarskydds styrelsen

Fack

100 26 Stockholm 34

Responsable pour la section de Physiologie du Travail (successeur de Monsieur Lundgren) à "INRS". "Seulement" recherche. Peut-être pas des idées pour -80. Très éfficace.

Rech.

A. Monsieur le Professeur

Ulf Åberg

Arbetsmiljölaboratoriet

Drottning Kristinas väg 47

114 28 Stockholm

Je pense que ce n'est pas necessaire avec des commentaires. Le qui a les plus profonds connaissances des ambiances industriells en Suède. Maintenant aussi professeurs à l'ecole polytechnique.

Rech.

Monsieur le Directeur

Åke Nilsson

Arbetarskyddsfonden

Wenner-Gren Center

Sveavägen 166, 8 tr

113 46 Stockholm

Directeur pour la fondation de protection des travailleur. La fondation a commencé à -72. Chaque industri paye un certain somme à cette fondation.
La fondation donne après des argents pour des projets de recherche. -
Il vient de la confederation General des Travailleurs.
Il doit savoir les direction de recherche pendant -80.

Adm

A° Monsieur le Docteur

Erik Bolinder

LO

Barnhusgatan 18

105 53 Stockholm

Chef-Docteur chez la confederation General des Travailleurs. Responsable pour plusieurs recherches et enquêtes sur les conditions de travail.

Rech Adm

+ Monsieur le Directeur

Toni Ivergård

Ergonomi laboratoriet

Mosebacke Torg 18

116 20 Stockholm

Directeur pour un petit laboratoire privé mais aussi professeur à l'ecole technique superieur à Luleå. Moins "etablis" et plus jeunes que les autres. Très proche collegue à Professeur Stuart Kirk.

Rech

Laborator

Bertil Gardell

Psykologiska Inst.

Stockholms Universitet

Box 6706

113 85 Stockholm

Responsable pour la section de psychologie de travail à "INRS" mais travail maintenant à l'université.

Le plus connu psychologue-social du travail en Suède. Il doit avoir des idéeś interessants.

Rech.

Monsieur

Arthur Norr

Styrelsen för Teknisk Utveckling

Fack

Stockholm 43

L'un des responsable pour la section des conditions de travail dans "l'organisation pour le developpement technique. Surtout administratif. Proche relation avec Monsieur Åberg.

Adm.

Monsieur

Lennart Levi

Lab. för stressforskning

Karolinska Sjukhuset

Fack

10401 Stockholm 60

Chercheur de "stress".

Rech.

"Les jeunes".

+ Monsieur
Jan Kronlund
c/o Ergonomilaboratoriet
Mosebacke Torg 18
116 20 Stockholm

Jeune chercheur socio-economic. A causé des debats. Regardé comme "rouge". Doit avoir des interessant points-des-vue pour -80. Surtout l'un des plus progressiv.

—

Toni Ivergård

Rech.

—

Monsieur
Carl-Eric Holmquist
Statens Vattenfallsverk
Jämtlandsgatan 99
16287 Vällingby

Voir pages precedents.

—

Professeur à l'ecole polytechnique dans "l'hygien industriel". Cause souvent des debat après ses discussion. A le courage de dire "la verité". En dehors des "etablis". Expects sur les question des conditions du travail depuis 25 ans. Surment interessant et different(?) idées sur le -80.

—

Madame
Elisabeth Lagerlöf
AMP
Arbetar skydds styrelsen
Fack
100 26 Stockholm 34

Jeune psychologue. Specialise en accidents de travail.

Rech.

Les chercheurs
chez Ulf Åberg

Arbetsmiljölaboratoriet

Drottning Kristinas väg 47

Stockholm

—

Monsieur
Kaj Elgstrand

ADU

Arbetarskyddsstyrelsen

Fack

10026 Stockholm 34

—

Monsieur

Christer Hillbom

Ny Teknik

Ingenjörsförlaget

Box 40058

Stockholm 40

Chez Monsieur Åberg travaillent six chercheurs, cinq ingenieurs et une psychologue.
Le plus connu des ~~cher~~ ingenieurs est Lennart Bengtson, la psychologue [redacted] Madame Lena Mårtensson doit aussi avoir des idees pour -80.

Rech.

Responsable pour l'education extern à "JNRS".
Dans ce domain il doit savoir beaucoup pour les idées déducation pour l'avenir.

Jeune redacteur dún magazine technique.
Non specialisé pour les conditions de travail mais doit avoir quand-même des points de vue interessant.

Monsieur
Henrik Wahlfors
Ergonomi Design AB
Regeringsg. 88
Stockholm

—

Monsieur
Olof Östberg
Loughbourough University
Angleterre

—

Jeune "chercheur" independent. Surtout des question de "design" mais il a peut-être des idées pour demain en general.

Rech.

Le plus connu (?) jeune ergonomist suedois qui malheureusement est absent de Suède.

Danemark

Monsieur le Professeur
Sven Forssman
WHO
8, Scherfigsvej
2100 Copenhagen

Depuis plus qu'un an Monsieur Forssman a quitté Suede pour travailler pour "World Health Organisation" et organiser un laboratoir hygien à Lodz (Pologne). Il travaille a copenhague et doit avoir des proches relations avec des "ergonomistes" à Danemark.

Adm.

—

Monsieur le Docteur
Kurt Jörgensen
Polio institut
Tuborgsvej 5
2900 Copenhague

Physiologist, et le seul danois que je connai un peu. Je ne sais pas s'il a des idees pour demain mais peut-être il peut vous donner des noms des jeunes chercheur.

Kech

—

A6 Monsieur
Jens Keiding
Drifts tekn. Inst
AMT
Danmarks Tekniska
Höjskole
Fuglevadsvej 44
2800 Lyngby

Je ne le connai pas mais il est regardé comme "le plus connu" danois. et d'avoir des idées interessant.

Rech.

Norvège

Monsieur
Lars Sjøflot
Landbruks Teknist Inst.
1432 Ås - NLH

Le seul norvégien que je connai.
Secretair. à "Nordic Ergonomic Society".
A travaillé beaucoup avec des vibrations
et est peut-être trop interesse pour
l'agriculture pour avoir des idéel general.
Mais il doit avoir des idées sur autres
chercheur interessant.

Rech.

Finland.

Monsieur
Ilkka Kuorinka

—

Monsieur
Aarni Koskela
Inst. för Arbetshygien
Haartmans gatan 1
SF - 00290 Helsinghors

Vous le connaissez mieux que moi mais c'est le
seul finnois que je connais. Je pense qu'il peut
vous donner des autres noms.

Rech.

Travaille dans le meme institut que
Kuorinka. Assez connu.

12 Mars 1974

Monsieur Nils Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S 100 26 STOCKHOLM 34

Cher ami,

Je vous remercie de tout le travail que vous fournissez à l'occasion de mon voyage. J'ai, en particulier, reçu une lettre du Docteur Sjøflot qui m'a beaucoup touché.

Je vous adresse ci-joint la copie de plusieurs lettres que j'ai écrites. Vous verrez que je prolonge quelque peu mon séjour dans les pays nordiques en assistant à une réunion de l'AGARD à Oslo du 22 au 24 Avril.

Je suis toujours très content de vous revoir et vous adresse mes meilleures amitiés.

A. Wisner

11 Mars 1974

Monsieur le Professeur Ulf Aberg
Arbetsmiljölaboratoriet
Drottning Kristinas vag 47
11428 STOCKHOLM
(Suède)

Copie : N. Petersson

Dear Ulf,

It was been a pleasure to meet you in Amsterdam; this day was a very nice and interesting one.

I can now confirm my intention of visiting Stockholm in April. It is for me a great pleasure though I have limited time to stay in your country.

However, I will be at Stockholm from tuesday 9th April at lunch to Saturday 13th or Sunday 14th. I will be very happy to meet you, if it is not too disturbing for your time schedule, and also some of your coworkers.

I have first written to Nils Petersson for the organization of my travel since I suppose he his less overloaded than you are.

I hope to meet you in Stockholm.

Truly yours,

Alain Wisner

11 Mars 1974

Monsieur le Professeur Nils Lundgren
A M
Arbetarskydds styrelsen
Fack
100 26 STOCKHOLM 34
(Suède)

Copie : N. Petersson

Dear Nils,

You have heard from Nils Petersson that I have an opportunity to visit northern countries next April. I enjoy this idea very much though I have limited time to stay in each place.

However, I will be at Stockholm from tuesday 9th April at lunch to Saturday 13th or Sunday 14th. I will be very happy to meet you, if it is not too disturbing for your time schedule, and also some of your coworkers.

I have first written to Nils Petersson for the organization of my travel since I suppose he his less overloaded than you are.

I hope to meet you in Stockholm.

Truly yours,

Alain Wisner

Ulf Åberg

Drottning Kristinas väg 47

114 28 Stockholm

Tel. 08/222540

Private: Ynglingavägen 13-15

18262 Stockholm

PROMSTRA STOCKHOLM

W	25	Sept
T	26	
F	27	
S	28	

FORSNAMN WHO

Handeagui Goldberg Bratt GÖRR

4 Mars 1974

Monsieur Nils Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S 100 26 STOCKHOLM 34

Cher ami,

Vous avez admirablement travaillé pour préparer mon séjour et je ne puis que vous demander de continuer à le faire comme vous me le proposez si amicalement.

Je vais écrire à Messieurs Lundgren et Aberg, qui sont mes amis depuis longtemps, de façon à leur annoncer mon séjour, et je me permettrai de vous proposer comme coordinateur puisque vous voulez bien l'accepter.

Je ferai bien volontiers un exposé sur le problème des conditions de travail en France (recherches et réalisations). Je serai aussi très heureux de visiter l'Institut des Handicapés. C'est en effet un domaine auquel nous nous intéressons de plus en plus.

Je voudrais bien visiter l'usine Volvo à Kalmar, mais je me demande si cela est utile puisqu'elle n'est pas ouverte.

Je vous serais reconnaissant de me retenir une chambre d'hôtel pour une personne dans le centre de Stockholm. Sans qu'il s'agisse d'un établissement de luxe, il me sera possible de résider dans un hôtel convenable (le Stureplan par exemple), étant donné que je fais un voyage à titre officiel.

Veuillez agréer, cher ami , avec mes remerciements, l'expression de mes sentiments très cordiaux.

A. Wisner

KUNGL ARBETARSKYDDSSTYRELSEN
ARBETSMEDICINSKA AVDELNINGEN

Handläggare

Datum 19.2.74

Vår beteckning

Edert datum

Eder beteckning

Monsieur le Directeur
Professeur A WISNER
41, rue Gay-Lussac
75005 Paris Frankrike

Cher Monsieur,

J'ai le plaisir de vous envoyer une petite liste malgré qu'elle est loin d'etre complete.
Je vous propose de voir à l'"INRS" le directeur Monsieur Danielson, Messieurs Lundgren et Westlin et je pense que Monsieur Lundgren arrangera le rendez-vous si vous l'ecrivez. Une visite chez Monsieur Åberg et ses collaborateurs doit aussi etre interessant (malgré que vous venez de le voir). En plus je pense qu'il sera precieux de rencontre le directeur de " la fondation de protection des travailleurs" Monsieur Åke Nilsson et le chef-docteur à la Confederation General Monsieur Erik Bolinder. Si vous trouvez l'education et la formation interessant Monsieur Ivergård et Monsieur Elgstrand, ils peuvent vous donner des renseignements complets.
Parmi "les jeunes" ou les chercheurs avec des idees " en dehors la societe etabli " je me permets de vous proposer d'arranger un rendez-vous avec Monsieur Jan Kronlund et Monsieur Carl-Eric Holmquist.
Il y a encore des chercheurs "etablis" lesquels je pense que vous connaissez aussi deja (par exemple Monsieur Gideon Gerhardsson, le docteur Nils Masreliez) et qui je ne crois pas ont des idees tres differents. Mais si vous voulez je vous envoi leurs adresses aussi.
Mon aide pour les autres pays nordic est, comme vous le voyez, tres faible. Je peux ecrire les persons dans la liste pour demander encore des noms mais je pense qu'il sera plus vite et pratique pour vous si vous le faites vous meme.
Jusqu'a maintenant je n'ai pas parlé avec les persons dans la liste (sauf Monsieur Lundgren) de votre visite. Je le ferai avec plaisir lorsque vous avez choisi lesquels qui vous interessent si vous ne preferez pas de les ecrire vous meme. Peut-etre le plus comfortable

Postadress
Fack
100 26 STOCKHOLM 34

Gatuadress
Industrivägen 13
Solna

Telefon
08-23 69 00

Telegramadress
Occuphealth

A 5

sera si vous les ecrivez sur votre intentions et moi j'arrange les details de votre visite avec eux apres. (Mais c'est comme vous preferez).

Est-ce que vous voulez faire une reunion de deux ou trois heures pendant laquelle vous disez quelques mots sur les conditions francais suite par un discussion sur les conditions actuels et les directions pour demain? Je pense qu'on peut inviter un vingtaine des persons interesse par l'ergonomie.

La liste ne contient pas des noms sur des persons qui travail avec des questions des handicapes. Est- ce que cela vous interesse cette fois aussi? Dans ce qas je pense gu'une visite a l`Institut des Handicapes pourra etre interessant et je l'arrange si vous le voulez.

Si vous avez pour l'intention de visiter un usine je vous propse d'essayer avec Volvo a Kalmar, connu en Suede comme l'usine de demain. Mais la fabrication n'a pas encore commencé et c'est un peu loin de Stockholm.

Est-ce que vous voulez que j'arrange d'autre chose avec votre sejour; un residence (hotel ou chez nous), une visite a l'opera etc ?

Je reste entierement a votre disposition.

Dans l'attente de votre peponse, je vous prie de croire, cher Monsieur, en l'assurance de mes sentiments les meilleurs.

Nils F Petersson

Nils F Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S - 100 26 Stockholm 34
Suede

KUNGL ARBETARSKYDDSSTYRELSEN
ARBETSMEDICINSKA AVDELNINGEN

Handläggare

Datum 14.2.74

Vår beteckning

Edert datum

Eder beteckning

Monsieur le Professeur
Directeur A WISNER
Laboratoire d'Ergonomie
41, rue Gay-Lussac
75005 Paris Frankrike

Cher Monsieur,

Je vous remercie de vos lettres du 7 Janvier et du 5 Fevrier, le dernier que je malheureusemant n'ai recu que aujourd'hui. Je regret le delai de ma reponse.

Je vais vous adresser un liste dans trois ou quatre jours sur les chercheurs suedois qu'on retrouve a Stockholm et que je pense peuvent vous interesser. Pour les autres pays nordic je crainds que mes connaissances sont trop petits. Neanmoins je pense que les chercheurs etablis sont facile a retrouver avec l'aide de Monsieur Lundgren ou chez notre bureau pour des contacts internationaux.

Je vous ecrira donc plus longue dans quelques jours sur les questions de votre sejour et des chercheurs.

Je vous prie d'agréer, cher Monsieur, l'expression de mes sentiments les meilleurs.

Nils F Petersson

PS Pour assurer un communication postale plus vite je vous demande de m'adresser vos lettres comme suivant:

Nils F Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
S - 100 26 Stockholm 34
Suede

Postadress
Fack
100 26 STOCKHOLM 34

Gatuadress
Industrivägen 13
Solna

Telefon
08-23 69 00

Telegramadress
Occuphealth

A 5

5 Février 1974

Monsieur Nils F. Petersson
Fogdevâgen 96I
12158 JOHANNESHOV
(Suède)

Cher Petersson,

J'espère que votre santé est tout à fait rétablie et que votre activité au laboratoire de Physiologie du Travail à Stockholm vous plaît toujours autant.

Comme je vous l'avais laissé entendre, je vais faire en Avril prochain un voyage en Europe du Nord afin de réfléchir avec nos collègues sur l'avenir de la recherche dans le domaine des conditions de travail.

La petite note ci-jointe vous décrira mes intentions et vous verrez sur le programme de voyage que j'espère passer 5 jours à Stockholm. J'espère que vous serez dans votre ville à ce moment-là et que j'aurai le plaisir de vous rencontrer.

Je vous serais très reconnaissant de bien vouloir m'adresser une liste de chercheurs chevronnés (comme par exemple vos Directeurs, les Professeurs Forssman et Lundgren) et de jeunes chercheurs inventifs (comme vous) qui, dans les quatre pays du Nord peuvent m'aider à poser les problèmes de recherche pour demain et non pas pour hier.

Je ne souhaite pas voir beaucoup de monde, sauf peut-être au cours de réunions de travail, car je voudrais être en état de réfléchir après trois jours de voyage.

Je vous remercie à l'avance de me rendre ce service et vous adresse mes sentiments très amicaux.

A. Wisner

N.B. Je peux vous adresser d'autres notes et d'autres programmes de voyage si vous souhaitez les communiquer à certains collègues. Sinon je les adresserai moi-même.

Generalités

22 Mars 1974

Compagnie Aérienne S.A.S.
30 Boulevard des Capucines
75009 PARIS

Messieurs,

Je vous prie de trouver, ci-joint, la somme de 1.715 F, comme règlement du billet destiné à Monsieur Alain Wisner, 41 rue Gay-Lussac, Paris (5e), tél. 033. 18.27, pour un voyage concernant les vols suivants :

- 7 Avril	- Paris-Copenhague -	S.A.S.	566,	dép.	14 h.25
- 9 Avril	- Copenhague-Stockholm	"	608,	"	11 h.45
- 14 Avril	- Stockholm-Helsinki -	"	734,	"	16 h.50
- 17 Avril	- Helsinki-Oslo -	FINN	797,	"	19 h.
- 24 Avril	- Oslo-Copenhague -	S.A.S.	647,	"	17 h.10
- 25 Avril	- Copenhague-Paris -	"	565,	"	11 h.40

Je vous prie de livrer ce billet 41 rue Gay-Lussac, dans les meilleurs délais, aux heures habituelles du bureau.

Veuillez agréer, Messieurs, l'expression de mes sentiments les meilleurs.

55-63
748.06 14

A. Wisner

PARIS – COPENHAGUE 7/4 SAS 566 | 14 H 25 / 16 H 10

COPENHAGUE – STOCKHOLM 9/4 SAS 608 | 11 H 45 / 12 H 25

STOCKHOLM – HELSINKI 14/4 SAS 734 | 16 H 50 / 18 H 40

HELSINKI – OSLO 17/4 ~~SAS~~ FINN 797 | 19 H / 19 ~~H~~ 25

OSLO – COPENHAGUE 24/4 SAS 647 | 17 H 10 / 18 H 10

COPENHAGUE – PARIS 25/4 SAS 565 | 11 40 / 13 H 25

——— 1.715

PROGRAMME DE VOYAGE DE A. WISNER

(définitif ?)

7 - 25 Avril 1974

Dimanche 7 Avril : Départ Paris - Le Bourget SAS 566 - 14 h.25
Arrivée Copenhague 16 h.10

A Copenhague : Hotel Sheraton - Copenhague

Correspondant : Pr FORSSMAN
Organisation Mondiale de Santé
Scherfigsves
DK 2100 COPENHAGEN - Danemark
Tél. (01) 29 01 11

Mardi 8 Avril : Départ Copenhague SAS 608 - 11 h.45
Arrivée Stockholm 12 h.25

A Stockholm : Hotel Plaza - Biblioteksgatan 11 - Stockholm
Tél. 22 08 80

Correspondant : Mr Nils PETERSON
AMAT
Arbets Kyddsstyrelsen
Fack
S.100 - 26 STOCKHOLM 34 - Suède
Tél. (08) 23 69 00

Dimanche 14 Avril : Départ Stockholm SAS 734 - 16 h.30
Arrivée Helsinki 18 h.40

A Helsinki : Hotel Hesperia
MANNERHEIMINTIE 50 - Helsinki
Tél. 441 311 - Télex 12 / 2117

Correspondant : Mr Ilka KUORINKA
Työterveyslaitos
Haartmaninkatu 1
SF 00290 - HELSINKI 29 - Finlande
Tél. 413 622

.../...

Mercredi 17 Avril	:	Départ Helsinki FINNAIR 797	- 19 h.
		Arrivée Oslo	19 h.25
A Oslo	:	Hotel Viking Biskop Gunnerus Gate 3 OSLO I - Norvège Tél. (02) 33 64 70	
	Correspondant	: du 17 au 20 Mr SJÖFLOT Landbruks Teknist Institutt 1432 ÅS N.L.H. NORVEGE Tél. 47 294 00 60	
		du 21 au 24 Réunion AGARD INGENIØRENES HUS Kronprinsen Gate 17 OSLO 2 - Norvège	
Mercredi 24 Avril	:	Départ Oslo SAS 647	- 17 h.10
		Arrivée Copenhague	18 h.10
A Copenhague	:	Hotel Sheraton COPENHAGUE	
Jeudi 25 Avril	:	Départ Copenhague SAS 565	- 11 h.40
		Arrivée Paris - Le Bourget	13 h.25

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PROGRAMME DE VOYAGE DE A. WISNER

(définitif ?)

7 - 25 Avril 1974

Dimanche 7 Avril : Départ Paris - Le Bourget SAS 566 - 14 h.25
Arrivée Copenhague 16 h.10

A Copenhague : Hotel Sheraton - Copenhague

Correspondant : Pr FORSSMAN
Organisation Mondiale de Santé
Scherfigsves
DK 2100 COPENHAGEN - Danemark
Tél. (01) 29 01 11

Mardi 8 Avril : Départ Copenhague SAS 608 - 11 h.45
Arrivée Stockholm 12 h.25

A Stockholm : Hotel Plaza - Biblioteksgatan 11 - Stockholm
Tél. 22 08 80

Correspondant : Mr Nils PETERSON
AMAT
Arbets Kyddsstyrelsen
Fack
S.100 - 26 STOCKHOLM 34 - Suède
Tél. (08) 23 69 00

Dimanche 14 Avril : Départ Stockholm SAS 734 - 16 h.30
Arrivée Helsinki 18 h.40

A Helsinki : Hotel Hesperia
MANNERHEIMINTIE 50 - Helsinki
Tél. 441 311 - Télex 12 / 2117

Correspondant : Mr Ilka KUORINKA
Työterveyslaitos
Haartmaninkatu 1
SF 00290 - HELSINKI 29 - Finlande
Tél. 413 622

.../...

Mercredi 17 Avril	:	Départ Helsinki FINNAIR 797	- 19 h.
		Arrivée Oslo	19 h.25
A Oslo	:	Hotel Viking	
		Biskop Gunnerus Gate 3	
		OSLO I - Norvège	
		Tél. (02) 33 64 70	
	Correspondant	: du 17 au 20	
		Mr SJÖFLOT	
		Landbruks Teknist Institutt	
		1432 ÅS N.L.H. NORVEGE	
		Tél. 47 294 00 60	
		du 21 au 24	
		Réunion AGARD	
		INGENIØRENES HUS	
		Kronprinsen Gate 17	
		OSLO 2 - Norvège	
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UN RAPPORT SUR LES CONDITIONS DE TRAVAIL

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Parmi les nouveaux programmes de recherche de 1974, se trouve un programme consacré aux conditions de travail, destiné à préparer les changements qui prendront place dans l'industrie au cours des années 80.

En dehors des activités d'un comité, un rapport doit être rédigé de façon indépendante pour la fin 1974. Il essaiera de décrire les tendances actuelles des différents aspects de la recherche sur les conditions de travail, principalement en physiologie et en psychologie (c'est-à-dire en ergonomie), mais aussi en sociologie, en économie et, naturellement, en technologie.

Ce rapport doit être écrit par A. Wisner, Professeur de Physiologie du Travail et Ergonomie au Conservatoire National des Arts et Métiers, et B. Tort, chercheur dans ce laboratoire.

Pour préparer ce rapport, il est nécessaire d'entendre les opinions de chercheurs éminents de différents pays mais aussi celles de nouveaux venus dans le domaine, qui sont supposés regarder "d'un oeil innocent" les champs futurs de la recherche sur les conditions de travail.

A. Wisner a choisi une partie agréable du travail en visitant les pays du nord de l'Europe en Avril 1974, et il sera très heureux de recevoir toute information écrite ou orale avant, pendant et après son voyage.

Il s'intéresse à des domaines variés : ergonomie, structuration des tâches, génie industriel, démocratie industrielle, ainsi qu'aux considérations fondamentales de physiologie du travail, de psychologie, de sociologie ou d'économie.

Il souhaite vivement recevoir des avis provenant des industriels et des syndicalistes aussi bien que des chercheurs universitaires.

Son adresse : Laboratoire de Physiologie du Travail et Ergonomie
du Conservatoire National des Arts et Métiers

41 rue Gay-Lussac, Paris 5ème

tél. 033.18.27

A REPORT ON WORKING CONDITIONS

The D.G.R.S.T. (Délégation Générale à la Recherche Scientifique et Technique) is a french governemental body in charge of the orientation of research specially in the areas of industrial or social interest.

Among the new research programs for 1974 one relates to working conditions and is intended to lay the ground for the changes that will take place in the industry in the 80's.

Beside the activities of a committee, a report has to be prepared independantly for the end of 1974 trying to describe the actual trends of the different aspects of research on working conditions; mainly in physiology and psychology (that is ergonomics) but also in sociology, economics and - of course - technology.

This report has to be written by Alain Wisner, Professor of work physiology and ergonomics at the Conservatoire National des Arts et Métiers, and Bernard Tort, researcher in this laboratory.

To prepare this report, it is necessary to hear the opinions of eminent researchers of different countries and also of newcomers in the field who are supposed to have "the eyes of innocence" in looking at the future fields of research in working conditions.

A. Wisner has taken a pleasant part of this task since he will be visiting the northern countries in April 1974 and he will be very happy to receive any information written or verbal before, during or after his trip.

His interests are large : ergonomics, structuration of work, production engineering, industrial democracy, but also basic consideration of work physiology, psychology, sociology or economics. He is anxious to receive advices from industry or unions people as well as from academic researchers.

His address : Laboratoire de Physiologie du Travail - Ergonomie
Conservatoire National des Arts et Métiers
41 rue Gay-Lussac, Paris 5ème - France
Tél. 033.18.27

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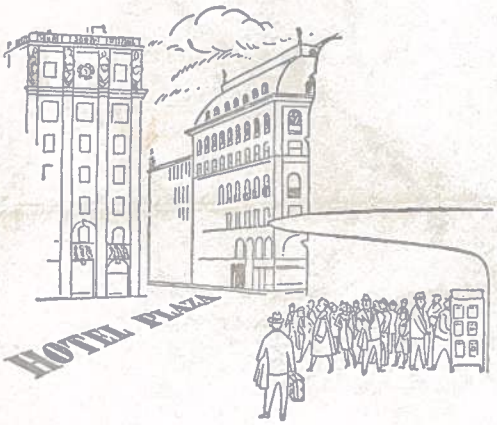

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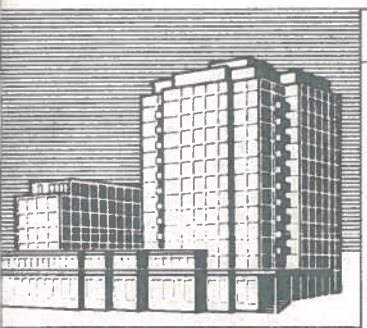

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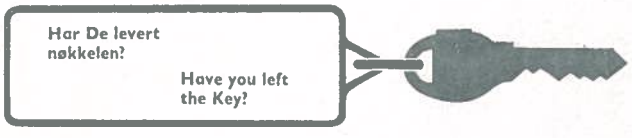

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Toni Ivergård
Ergonomilaboratoriet
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116 20 Stockholm
Tel. 43 35 30

Jeudi 11 à 09h00

Lennart Levi
Lab. för Stressforskning
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Professor Alain Wisner
Laboratoire de Physiologie du Travail
et Ergonomie
Conservatoire National des Art et Metiers
41 Rue Gay-Lussac
F-75005 PARIS
FRANKRIKE

Dear Professor Wisner,

It was very nice to have you here at ERGOLAB the other week. The discussion at the restaurant was most interesting and stimulating.

As I promised I am here sending you the drawings. Enclosed you will find a few papers which may be of some interest for you. Pity enough, we have not got very much papers published in English yet. Otherwise I have got a paper in Swedish about the involvment of workers in the design of new industries.

I would be most grateful if you could send some further information about the conference in Italy you mentioned. I also look forward to seeing you again.

With all best wishes,
Yours sincerely,

Toni Ivergård

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Encl.: drawings
papers

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Dr Toni Ivergård:

Ergonomi och projektering av nya arbetslokaler

Särtryck ur RUM, SIR:s Medlemsblad Nr 4/73

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Ergonomi och projektering av nya arbetslokaler

Dr Toni Ivergård

Författaren presenterar här olika synpunkter på behovet av att ta hänsyn till människan och miljön* i samband med planering av nya arbetslokaler. Speciellt behandlas sådana krav i anslutning till den nya arbetsmiljölagstiftningen. Han föreslår en rutin för planering av nya arbetslokaler, som inkluderar hänsyn till människan och miljön. Olika problem, som kan uppstå i samband med upphandling diskuteras också.

Det sägs ofta att hänsyn till sociala, mänskliga och miljömässiga faktorer måste tas redan från allra första början när en ny byggnad eller industrianläggning skall börja planeras. Med andra ord, de olika problem, som hänsynen till människan och naturen ställer måste man försöka förutse och lösa redan innan själva byggandet påbörjas.

* Hänsynen till mänskliga och sociala faktorer vid teknisk planering kan också kallas ergonomi

Dessa synpunkter verkar närmast självklara. Men tyvärr är det mycket sällan som de kommer till tillämpning. Orsakerna till detta är flera:

1. De personer, som har kunskap och erfarenhet inom ergonomi och närstående områden är inte de som projekterar och planerar arbetslokaler.
2. Ett än mer allvarligt problem är att det ännu saknas mycket, i projekteringssammanhang, tillämpbar information inom ergonomi- och miljöområdet (informationen är i stället av en mera diagnostisk och forskningsorienterad karaktär).
3. Det saknas konkret formulerade krav och normer och på andra sätt uttalade behov av att hänsyn verkligen måste tas på ett reellt och meningsfullt sätt.

Om man börjar med den sistsnämnda punkten först, så kan man konstatera att nya tillägg till arbetarskyddslagen och byggnadsstadgan kommer att kräva att man tar hänsyn till människan i samband med planering och projektering av arbetslokaler. Vidare kommer man att kräva att de anställda skall ha rätt att deltaga vid planering av nya eller väsentligt förändrade arbetslokaler.

Förutom dessa lagligt stadgade krav finns det överenskommelser (om företagshälsovård, arbetarskydd och rationalisering) mellan arbetsmarknadens parter, som på liknande sätt hävdar att hänsyn till människan måste tas redan i samband med planering och projektering av arbetslokaler. Det är väsentligt att betona att, förutom olika former av vinster för personalen i form av en mindre farlig och riskfylld miljö, lättare och bekvämare arbete och liknande, man också kan vinna effektivare och mer attraktiva arbetsplatser.

Den andra punkten berör ett allvarligt problem inom ergonomin och andra delar av arbets- och miljövetenskaperna. En mycket omfattande forsknings- och utredningsverksamhet har under det senare decenniet bedrivits under beteckningar som ergonomi, arbetshygien, arbetsvetenskap och miljövård. Mycket förfinade metoder för att utföra kartläggningar och undersökningar på arbetsplatser, arbetsmetoder, maskiner och produkter har utvecklats. Man har också skapat sig ett relativt välutvecklat normsystem, med vars hjälp man kan fastställa risknivå, komfortnivå och störnivå. Tyvärr, har det mesta av denna information inte formulerats och inriktats på ett sådant sätt att den är direkt användbar i planerings- och projekteringssammanhang.

Det är således svårt att använda informationen i prediktiva syften. Det är exempelvis svårt att använda sig av enbart hygieniska gränsvärden, som finns för kemiska miljöfaktorer, i samband med planering av arbetslokaler. Förutom de hygieniska gränsvärdena har man behov av olika former av tillåtna utsläppsvärden och liknande från maskiner, med vars hjälp dimensioneringar av ventilationsanläggningar kan utföras för att de hygieniska gränsvärdena skall hållas. På liknande sätt saknas lämpliga dimensioneringsmetoder och dimensioneringsvärden inom andra delar av ergonomin, t.ex. beträffande belysning, buller, maskinutformning, möbelutformning osv. Det finns således behov av en form av databank, med kunskap som direkt kan användas i planerings- och projekteringsprocessen.

Den nya arbetsmiljölagstiftningen

En väsentlig förändring har införts i byggnadsstadgan. Innan byggnadslov kan ges skall yrkesinspektionen höras om de planerade lokalerna kan anses fylla de krav, som arbetarskyddslagen ställer. För denna prövning, som yrkesinspektionen *måste* göra, har yrkesinspektionen rätt att kräva in alla de handlingar, som man anser behövliga för sin prövning. I sin prövning skall yrkesinspektionen också kontrollera att de anställda fått tillfälle att deltaga i planeringen av lokalerna.

Detta senare är också en nyhet i såväl byggnadsstadgan som i arbetarskyddslagen. I arbetarskyddslagen sägs att de

anställda genom sina skyddsombud skall ha rätt att deltaga i planeringen av sina arbetsplatser. Även skyddskommittén skall behandla frågor som rör planering och projektering av arbetslokaler. Gäller detta nybyggnad, där det inte tidigare finns några anställda och därmed inte heller några skyddsombud, så skall man i stället anse att de anställda får representeras genom de fackliga organisationerna. I stället för att ta kontakt med skyddsombud, får man således i stället ta kontakt med den eller de fackliga organisationer, som kommer att organisera arbetstagarna på de nya arbetsplatserna.

Vet man inte för vilken typ av verksamhet, som lokalerna skall komma att användas då man söker byggnadslov, så erhåller man byggnadslovet med det villkoret inskrivet att kontakter måste tas med yrkesinspektionen för godkännande innan lokalerna får tas i bruk som arbetslokaler. I den proposition "bättre arbetsmiljö", där dessa nya lagar föreslogs, ges en del kommentarer om hur de nya bestämmelserna skall tolkas. De formuleringar, som finns i arbetarskyddslagen och i byggnadsstadgan är inte särskilt förklarande. Man säger t.ex. att skyddsombuden skall "deltaga" i planering och att skyddskommittén skall "behandla" frågor som rör lokalplanering.

I propositionen utsägs rätt klart vad man menar med dessa termer. Det sägs bl.a. att yrkesinspektionen i sin granskning skall tillse att vederbörlig hänsyn tages till de anställdas krav och önskemål i samband med planering. Det sägs också att de anställda skall ges tillgång till all den information, som är behövlig, för att de på ett meningsfullt sätt skall kunna deltaga i planeringsarbetet.

Exakt vad detta senare skall innebära är svårt att ännu ange. Helt klart är att det inte är tillräckligt med att slänga upp en bunt ritningar för de anställda och be att de yttrar sig. Självklart måste handlingarna och olika alternativa projekteringsförslag presenteras för de anställda på ett sådant sätt att de förstår vad de olika alternativen kommer att innebära för dem.

För många företag innebär detta mycket stora förändringar i förhållande till hur man idag planerar sina lokaler. För andra företag innebär det endast smärre eller kanske inga förändringar. Marabou har exempelvis vid planering av sin nya chokladfabrik till mycket stor del låtit de anställda deltaga i planeringens olika delar. Man har t.ex. haft arbetsgrupper, där de anställda har ingått vid planering av personalutrymmen.

För att få till stånd en meningsfull diskussion om olika alternativa utformningar av personalutrymmena, byggde man i sin gamla fabrik upp fullskalemodeller av delar av personalutrymmena, där de anställda hade tillfälle att gå in och pröva olika anordningar och föreslå förbättringar. Idag har man i sin nya anläggning personalutrymmen, som i många avseenden är helt överlägsna vad man kan finna i andra industrianläggningar.

Projekteringsrutiner

Metoder och rutiner för projektering av byggnader har under senare år uppnått en relativt hög grad av sofistikering. Man arbetar med rutiner som är uppdelade i ett antal skeden. En vanlig indelning är att man talar om utredningsskede, programmeringsskede, förslagsskede, huvudhandlingsskede, detaljhandlingsskede, utförandeskede, bruksskede. Denna nämnda skedesindelning är den som anges i en skrift, som utges av Institutet för Verkstadsteknisk forskning (IVF), som behandlar metoder och rutiner för planering av industribyggnader. Denna skrift är i många avseenden helt utmärkt och den visar också på behoven av att ta hänsyn till arbetsmiljöfaktorer vid planering. Trots att den är utkommen 1973 har den dock missat de nya krav, som ställs i och med den förändrade arbetsmiljölagstiftningen. I tabellen härintill ges en något annorlunda skedesindelning (från Ivergård i Applied Ergono-

mics 1973). Där har också inlagts planering av produktionsprocesserna som sådana. Det som benämns miljö- och humanfaktorer är de olika faktorer, som man måste ta hänsyn till ur arbetsmiljösynpunkt.

I tabellen kan man se att det finns behov av att utföra vissa preliminära arbetsmiljöanalyser redan under utredningsfasen. Det är således nödvändigt för ett företag att i sin långsiktiga planerings- och utredningsverksamhet få med arbetsmiljöfaktorer för att på ett mer förutsättningslöst sätt kunna pröva och utvärdera olika former av industriella processer gentemot varandra. Först på så sätt finns det möjlighet att utveckla mer radikalt förbättrade miljöförhållanden. Vidare framgår av figuren att det mesta av de funktionella kraven måste komma in redan under programmeringsskedet. Speciellt viktigt är detta då man har någon form av totalentreprenad för sin upphandling.

Upphandlingsprocessen

Under senare år har det blivit allt mer vanligt med totalentreprenader och liknande vid upphandlingen av byggnader (vilket innebär att entreprenören utför detaljprojekteringen). Man har ofta ansett sig få olika former av fördelar med denna form av upphandling (bl a beroende på att entreprenören kan

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<tr><td rowspan="3">Produktions-process

Miljö- och human-faktorer

Byggnad</td><td rowspan="3">Bestämning av systemets mål och allmänna kriterier</td><td rowspan="2">Funktions-analys</td><td colspan="2">Layout och val av process och maskiner</td><td>Utformning av hårdvaru- och inköps-spec.</td><td rowspan="3">Analys av anbud och inköp</td><td rowspan="3">Installation och byggande</td><td rowspan="3">Idrifttagande Testning och utvärdering Brukande</td></tr>
<tr><td>Bestämning av human- och miljö-krav</td><td colspan="2" rowspan="2">Rådgivning vid konstruktion och design</td></tr>
<tr><td rowspan="2">Analys</td></tr>
<tr><td colspan="3">Projektering</td></tr>
<tr><td>Exempel på human- och miljöaktiviteter</td><td>Medverka vid:
– Bestämning av aktiviteter
– Val av tomt
– Studier av andra liknande anläggningar
– Fastställande av projektorganisation</td><td>Fastställa krav på:
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– Belysning
– Klimat
– Ventilation
– Avfall: gasformiga vattenformiga fasta
– Sociala normer
– Sociala utrymmen
– Informationsflöden
– Materialflöden
– Organisationsformer*</td><td colspan="3">1. Val av maskiner med avseende på:
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– vibrationer
– lay-out
– instrument
2. Val av egenskaper hos byggnaden:
– akustik
– belysning
– ventilation
– fysisk kommunikation
3. Utarbetande av:
– kontrollrutiner
– informationsprogram
– arbetsorganisation</td><td colspan="3">1. Rådgivning beträffande:
– urval
– träning och utbildning
– skyddsprogram
– samarbetsformer
2. Genomförande av testning och kontroller</td></tr>
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Modell av en planeringsrutin där man tar hänsyn även till människan och miljön.

* Skall arbetet organiseras i självstyrande produktionsgrupper eller liknande måste detta bestämmas redan i planeringens början

anpassa detaljutformningen till de byggmetoder han själv är specialiserad på).

I och med att man börjar ställa olika former av ergonomiska krav i samband med planeringen av arbetslokaler, så är det troligt att det finns behov av att närmare överväga vilka upphandlingsformer som är mest fördelaktiga.

Det är helt klart att den information, som finnes tillgänglig beträffande utformning av arbetsmiljöer och de krav som människan kan ställa på arbetsmiljöerna, är av sådant slag att den är mycket svår att konkretisera och specificera i klara och entydiga termer. För vissa delar av arbetsmiljöområdet kan det vara lättare men för andra delar är det närmast omöjligt. Bulleromrädet är ett fält, där det troligen är möjligt att åstadkomma goda specifikationer. För andra områden, som arbetsställningar, olycksfall och liknande är det betydligt svårare. Ännu svårare blir det då man kommer över till frågor som vad folk tycker och tror sig tycka vara det mest trevliga och subjektivt tilltalande.

För att man verkligen skall få tillfälle att uppfylla den nya arbetsmiljölagens krav, är det troligen önskvärt att man har en sådan upphandlingsform att *byggherren* har kontroll över projekteringen ända fram till och med att detaljritningar och detaljplaner fastställts. Först under dessa omständigheter har man möjlighet att på ett reellt och meningsfullt sätt ta hänsyn till de anställdas åsikter och kunskap i samband med planering. Det är också först då som det blir verkningsfullt att kalla in olika former av ergonomiska och andra experter i planeringsarbetet. Även om många mer allmänt formulerade krav och önskemål bör och kan formuleras mycket tidigt i processen så måste ergonomerna själva deltaga med råd och anvisningar i samband med detaljprojekteringen.

I detta sammanhang kan det också vara värt att påpeka behovet av arkitekter och inredningsarkitekter med en annorlunda utbildning än vad som idag är vanligt. Mycket av arbetsmiljökraven och människokraven som ingår i förslagsskedena, huvud- och detaljhandlingsskedena borde kunna tas upp av arkitekterna om dessa hade en tillräcklig utbildning i ergonomi och närliggande ämnen.

Skall man formulera ergonomiska kravspecifikationer, som skall ingå som en del av anbudshandlingarna i en totalentreprenad eller vid större maskin- eller processinköp, måste följande fyra punkter ingå i inköpsspecifikationen:

1. Kravbeskrivning
2. Beräknings- och analysmetoder
3. Mall för anbudsgivningarna
4. Besiktningskrav

De krav, som man kan ställa kan exempelvis gälla lämpliga belysningsnivåer, luminansnivåer, bländningsgrad, ljuddämpning, ljudnivåer, lufttemperatur, lufthastighet, strålningstemperatur, föroreningsemmissio-

Det är viktigt att inte tappa bort människan vid planering av arbetsplatser.

ner etc. Förutom att man behöver ange dessa krav måste man, som sägs under 2, ange de beräknings- och analysmetoder, som entreprenören/säljaren skall använda sig av vid bedömning av graden av kravuppfyllelse. Detta är nödvändigt eftersom det ofta finns olika alternativa beräknings- och analysmetoder för olika miljöfaktorer. När man exempelvis talar om bländning, måste man också ange på vilket sätt bländningen skall beräknas för att bländningsangivelsen skall bli meningsfull. Detsamma gäller beträffande ljudtrycksnivå etc. Vidare är det självklart av vikt att de olika anbudsgivarna använder en likartad mall för att presentera sina anbud med. Detta är nödvändigt för att anbuden sinsemellan skall bli jämförbara och för att man skall ha ett underlag för kontraktskrivning. Det är också nödvändigt att man redan från början är överens om på vilket sätt graden av kravuppfyllelse skall kontrolleras i samband med besiktning. Har man inte kommit överens om detta i förväg, blir det nästan meningslöst att över huvud taget ha ställt några krav.

Några avslutande synpunkter

De nya bestämmelser, som vi fått i arbetarskyddslagen och byggnadsstadgan, kan vara början och inledningen till nya metoder och sätt att projektera och planera för en bättre arbetsmiljö i framtiden. De nya bestämmelserna kan också innebära ett stort svek mot de anställdas berättigade krav på bättre arbetsförhållanden. Hur utfallet kommer att bli beror bl a till stor del på hur de nya bestämmelserna kommer att tolkas av myndigheter, byggherrar, planerare och projektörer och fackliga organisationer.

Idag har man vid planering och projektering givna intressegrupper i form av byggherrar, anställda/brukare, konstruktörer/projektörer samt byggare/tillverkare. Byggherren är den som sitter inne med beslutsrätten i de avgörande frågorna. Konstruktören är den som skall försöka forma och konkretisera byggherrens önskemål och beslut. Byggaren och tillverkaren är den som skall få fram anläggningen i verkligheten. Den anställde kommer sedan dit för att vistas i och bruka anläggningen. Enligt den nya arbetsmiljölagstiftningen så kommer de anställdas roll på ett väsentligt sätt att förändras. Tanken är att de bl a skall ha möjlighet att deltaga i själva konstruktionsarbetet genom att bidra med sina erfarenheter och kunskaper. Men de skall också ta del av beslutsprocessen genom att med sina värderingar och åsikter ha möjlighet att påverka väsentliga beslut.

Det finns dock risk för att det kan bli frågan om en stor skenverksamhet om man inte samtidigt ser till att de anställda verkligen får de resurser som behövs för att de på ett meningsfullt sätt skall kunna ta ställning i olika frågor. Får de anställda inte dessa resurser, men ändå tvingas deltaga i planeringsarbetet, kommer deltagandet enbart att bli ett alibi för framtiden, som gör det svårt för de anställda att klaga eller vara missnöjda med miljöförhållandena.

Å andra sidan har de anställda ofta mycket erfarenheter och kunskaper som bör kunna vara till stor nytta och värde för projekteringsarbetet, om de har tillfälle att med en riktig bakgrund (dvs att de har fått ta del av handlingarna, som de har kunnat förstå innebörden av och bilda sin egen uppfattning) kunna deltaga vid de rätta tillfällena i planeringsarbetet. Det är också väsentligt att förstå att det inte räcker med att låta enbart de anställda vara med i planeringen, för att olika arbetsmiljöhänsyn skall kunna tas. Dessutom behövs tillgång till olika former av fackkunskap, t ex i form av ergonomer, kvalificerade skyddsingenjörer och liknande. För mycket av den löpande bevakningen i projekteringen bör ergonomiskt utbildade arkitekter kunna fylla viktiga uppgifter.

AB Trycksaker Norrköping 1974

Applied Ergonomics, 4.3, 150–153

The use of ergonomics in the design of new industries

Toni Ivergård
Managing Director, ERGOLAB, Stockholm, Sweden.

The author presents the case for considering ergonomics factors as well as social and environmental considerations when designing new buildings and industrial plants. After considering the design processes currently being used in Sweden for houses, offices and industrial buildings, he reviews the type and presentation of the data required, followed by an outline of the application of the proposed system to the design of a large and a small industrial development.

It has often been stated, and often as a result of hindsight, that social, human factors and environmental (SHE) considerations should be taken into account right from the start when new buildings and industrial plants are being planned and designed. In other words, the problems which arise concerning the needs of both man and nature in new buildings and industries, and in domestic housing and the whole area of urban development, must be predicted and solved before the first brick is laid. This also implies a sound judgement of the technical means that are available to solve these problems.

So much is self-evident, and sounds almost trite. But sadly enough, it is very seldom that this ideal exists in practice, despite the fact that discussion and controversy about human factors and environmental problems are currently so fashionable. The main reasons for this are two-fold:

1. The people with knowledge and experience in the human factors field are not those doing the designing and planning.
2. A more serious problem at the present time is that the information available in the fields of human factors (eg. ergonomics, occupational and environmental health) is mainly of a diagnostic and research-oriented character.

Experience, although limited in the use of this "diagnostic" information in Sweden and the USA, shows that it is not directly applicable to the processes of design and planning. It requires some effort for a non-specialist to search the literature, for example, for a relevant fact which should be used in a design, and many aspects cannot be considered at all. What is needed is a 'data-bank' of knowledge, which can be used directly in the design and planning processes and routines.

These routines, which are in current use in the design of new domestic and industrial buildings, have achieved a high level of development and complexity, while the actual time allowed for these stages has been steadily reduced. This in turn means that many design activities have to be performed in parallel, and complex rules for information flow between experts in different fields and for decision-making tasks have been formulated. It is thus even more difficult to break into these processes with new types of information.

There are thus two needs: (1) to obtain SHE data in such a form that they can be used easily in the design process; (2) to attempt to change the design process itself so that this new type of information can be assimilated more easily.

The body of this paper is divided into three main sections:

1. A discussion of the design processes currently being used in Sweden for houses, offices and industrial buildings.
2. The type and presentation of the SHE data which are required for planning and design processes.
3. Applications of the proposed system as experienced in the architectural design of a large industrial plant and in a smaller factory building.

The author's main experience in this field has been gained in the design of industrial plant and shopping areas, but the systematic approach to be described is applicable to all other building projects.

The design and planning process

In Sweden today there are basically two models which are being used in the design of buildings:

The first model uses classical and well-tried techniques, and is divided into three phases: analysis, design and construction (these are also analogous with the methods used in the USA). This means that the design consultants are producing the complete design and can follow it through from the initial stages to the completion of the bid package. They are responsible for producing detailed design drawings and descriptions of all parts of the system. The bid package is made up of sub-packages covering heating and ventilation, electrical installations, sanitation, interior design and so on, and they also cover the industrial process and the machinery to be used. This kind of design and planning process is becoming less common in Sweden nowadays.

The second model relates to the modern tendency for the consultant designers to provide just the basic framework for the design, and leave the detailed design work to the different contractors. In this case, the bid package consists of functionally oriented specifications couched in much more general terms than in the first

model. The contractors are then free to produce the detailed design in ways which fit in with their own particular construction methods. There are two main philosophies behind this:

1. The contractor should be able to produce a cheaper product because he can use processes and techniques with which his company has had the most experience and has optimised in terms of time and cost.

2. The design process should take less time, as the contractors know more about their techniques, materials and construction methods than do the consultant designers.

There is an inherent risk in the use of the second model that the customer does not end up with the building or plant that he originally envisaged. It is difficult to be specific when talking in general and functional terms, and it is still more difficult to evaluate the bids produced by the contractors and to be able to compare them in relation to the original specifications when they are phrased in such general terms. Last, but by no means least, is the difficulty of checking later whether the contractors have fullfilled the specified requirements.

Fig 1 shows a diagram of a generalised design process, which is applicable to both of the models mentioned above. In the first model, the consultant designers are involved in all stages of the process, wheras in the second model they are only concerned in the first phases.

In parallel with the building process are shown the steps in the design of the industrial process, although, of course, if buildings with other purposes than industrial are being constructed the details of each phase will be different. However, the basic steps in this systematic approach will be the same whether the building is an industrial plant or, for example, a goods distribution centre for retail shops or an administrative office block.

In a central position in the diagram are indicated the SHE factors. These are discussed in the next section.

Integration of SHE factors in a design process

Information required

SHE information must be considered at each of the following points in the design process:

First, the aims and whole raison d'etre of the building in question must be examined from a SHE viewpoint, in addition to considering the purely commercial aspects.

Second is the determination of a site for the building. Factors which must be considered here are air and water pollution, waste disposal problems, positioning of the building in relation to others on the site and aesthetic problems of fitting the building into the general environment.

Third is consideration of the internal design of the building and the relevant work processes which will be

PHASE	0	1	2			3	4	5
Production process	Definition of system objectives and general criteria	Function analysis	Layout and selection of processes and machinery		Design of hardware and purchase specifications	Analysis of bids and the purchasing processes	Installation and construction	Operation Evaluation and testing In use
S H E factors		Definition of operation requirements for S H E	Design assistance					
Building		Analysis	Design					
			Function design	Physical design	Detailed design			
Examples of S H E factor activities	Definition of activities –Selection of site –Studies of other plants and buildings	To give requirements on: –Noise –Light –Thermal environment –Ventilation –Waste : –gases –liquids –solids –Social norms –Social space –Communication flows –Job principles		–Selection of machinery –safety –vibration –lay-out –instruments –Selection of building techniques –acoustics –lighting –ventilation plan –physical communication –Development of –control routines –information programs –organisation			Advice to management and personnel departments on –selection –training –safety programmes	

Fig 1 An example of a design process in which the social, human and environmental factors are considered

carried out in it. The layout of the interior must be natural to, and easily understood by, its occupants. Environmental problems such as lighting, noise levels, air conditioning and gas and dust removal must be considered, also the degree of automation needed and the job principles, etc. Ergonomics questions of importance are the amount of monotony allowable in a man's job, information flow, communications and understanding of the process (also selection and training of personnel in the first place).

Experts' contribution

Involvement of SHE experts in the design process may be divided into four phases:

1. Development of specifications
2. Design work and technical advice
3. Evaluation of bids
4. Evaluation and inspection on the fulfilment of the original specifications and the operational requirements.

These four phases may be seen to be similar to the four design phases listed earlier, and may similarly be applied to both design models. In the first model, the SHE experts involved can be much more directly in touch with details of the design. In the second model, the customer must rely on the contractor having qualificated SHE experts in his design team, and this will only been achieved if the customer himself has a highly qualified (and tough) SHE group. The jobs of such a group would be:

1. To examine the process or function of the building and determine the necessary SHE factors which must be taken into account.
2. Interpret and formulate these factors into simple rules which the contractors must follow and incorporate into the bid package.
3. Establishment of norms of how the bid package should be presented, so that it may be compared readily with bids from other contractors as regards compliance with the rules mentioned in (2).
4. Specifications of the techniques and instrumentation needed for testing, inspecting and examining whether the original requirements have been fulfilled.

The quality of the bid package provided by the contractors would be much increased by these steps, and it will be easier to question and check the information given. On the other hand, it will be easier for the contractors to produce a bid package according to this simple series of guide lines.

Available information

The information which is available at present in the SHE field is seldom in a form in which it can be used directly in the design process, as mentioned in the introduction. One example of what is needed, and how the SHE information can be presented in a form where it is directly usable by designers, is that concerned with the acoustic environment. One can specify exactly what noise levels and which frequencies will cause damage to the hearing, and which will cause social and behavioural disturbances. Standardisation has been achieved on methods for noise measurement and instrumentation, and methods and materials for noise reduction are also well-documented.

Other information, however, tends still to be found only in bits and pieces in the masses of research reports and papers that are produced. It is all very well for the SHE group to have access to the relevant information, but unless it can be presented in a useable form to the designers it is worthless. This implies two points; that the SHE experts must be able to talk the same technical language as the designers, and that a 'data-bank' of all the knowledge and information in the areas where the SHE experts are involved is needed. This would not, of course, obviate the need for the SHE experts, but would provide valuable guidelines in the basic requirements for the designers. Typical questions which should be specified more closely are the optimum degree of automation in industries of different types, information flow patterns, and the social contacts and relationships (or opportunities for them) within the working environment.

Some experiences in the use of these methods

The methods discussed in this paper have been used several times in Sweden, and two examples in which the author was involved are discussed here. One concerns a small textile factory in the north of Sweden, where the methods were necessarily applied in a fairly elementary way, and the other is a sizeable oil refinery built on a site where a more sophisticated application was possible.

Textile factory

In this case, the more traditional form of bidding and design procedure was used (akin to Model 1), which meant that the work of the SHE experts was well-integrated with that of the other consultants in the design team. The author acted as the social, human factors and environmental expert throughout for the design stages. He was called in during the preliminary stages in the design process, before selection of the site for the factory, but after the main decision had been taken that a factory should be built.

The design work had to be completed within a period of six months and a number of outside consultants were used at various stages. The general requirements were defined by the author, but for the detailed design of the different process plants and buildings specialists in, for example, acoustics were called in to carry out the technical calculations necessary. Experts on ventilation plants and lighting equipment were also consulted at the relevant stages.

In retrospect, one can see that many of the possible SHE problems were foreseen and avoided, but due to the short time period and the work-load involved some problems could not be solved at the time and had to be corrected later in the traditional and much more expensive way. It is always difficult to analyse the costs and benefits of complying with SHE requirements, but one can easily estimate that the cost of forseeing the problems in the design stage is between one fifth and one tenth of the cost of correcting mistakes afterwards. The increase in the design costs in this type of job would be between 10% - 15% of the total design costs.

Oil refinery

In this plant, the more modern design and building processes were used, similar to Model 2. In this case, the

author was also called in at a very early stage in the design, and he acted as co-ordinator of all the SHE factors work. Later in the design the general environmental problems which concerned the community (eg, air and water pollution) were handed over to another group of specialists; and in the final phases these problems, and those concerning safety on the plant, were taken over by the newly-recruited permanent staff of the refinery who would be responsible for them in the future.

In the same way that specifications (eg, for piping and building construction) were produced by the designers, a special SHE factors specification was also produced, and this had to some extent a higher status than other specifications. This meant that in the case of any conflict of interest or information, the SHE specification would have priority.

The specifications dealt with all the various areas mentioned above such as acoustic, visual and thermal environments, water and air pollution, waste disposal and safety problems.

As already indicated, some of the specifications were relatively easy to produce, while great difficulty was experienced with others. To take noise as an example, the four steps of basic requirements, design rules, norms to be complied with, and testing and inspection specifications, could be specified in great detail. Even so, it proved to be expensive to comply with all the legal requirements for just this one factor. Other sections of the specification were necessarily somewhat simpler.

Conclusions

Much work still has to be done, especially on standardisation, in this field, and also applied research into the kind of information which it is necessary to provide for designers of these and similar systems. Much of the present-day SHE factors research is not directed in such a way as to give this type of information because its aim is usually explorative in a general sense. Apart from this applied research, there is also a great need to assemble the data which have already been provided by researchers into a usable and useful form (the 'data-bank'), and to make this available to the designers and planners as soon as possible. With the new design techniques mentioned becoming more and more common, these needs are rapidly becoming more urgent.

In the autumn of 1972, a new course in Social, Human and Environmental factors has been given in Stockholm for engineers involved in building services. This course is a short introduction, based on the concepts outlined in this paper, to present such information as can be used by them in normal design work. Similar courses will probably also be organised for architects and interior designers at a later date.

There may also be a research project starting in Sweden which will aim to specify and detail the information and standards necessary for rational design routines, which include social, human factors and environmental criteria. It would be most useful and interesting to make contact with anyone else who is working in this field, and the author would be glad to hear from anyone engaged in similar research.

The future

There are a few instances in Sweden where the design approach outlined here has been used with success in buildings other than factories; eg, in the design of shopping-centres. This approach can also be used in the design of living accommodation, and in urban development in general. One can foresee that this approach could probably be most successful in the design of complete new towns, where one is able to consider all the main aspects of man's life, ie, both the working (industrial) life and the leisure and domestic life. As in all complex systems, such as a new town, the various parts are inter-dependent in different ways. This is especially true in the relation between a man's work and home, and if these could be designed in an integrated fashion it may well be possible to alleviate some of the problems caused by the present-day patterns of living.

Acknowledgement

Mr Andy Nicholl has given me the most valuable assistance in the preparation of this paper.

Mercredi 10 à 14h00

Bertil Gardell
Psykologiska Inst.
Stockholms Universitet
Norrtullsgatan 41
(Box 6706)
11385 Stockholm
Tel. 22 81 60

Privé

c/o Strindberg
Lützengatan 1 IV
115 23 Sthlm
Tel. 62 95 42

Nils F Petersson
AMAT
Arbetarskyddsstyrelsen
Fack
100 26 Sthlm
236900/151

Lundgren

Tel. privé

63 80 99 (Stockholm)

765 21 76 (à la campagne)

Mercredi 10 à 10h30

Anders Englund
LO (≈ CGT)
Barnhusgatan 18
105 53 Stockholm
Tel. 22 89 80

Mercredi 10 à 0800

Jan Kronlund
Ergonomilaboratoriet
Mosebacke Torg 18
116 20 Stockholm
Tel. 43 94 45, 59 55 61

FINLANDE

5 Février 1974

Monsieur le Docteur Kuorinka
INSTITUT DE MEDECINE DU TRAVAIL
Haartmaninkatu 1
SF 00290 HELSINKI 29

FINLANDE

Cher ami,

J'espère que votre voyage de retour n'a pas été trop difficile malgré le temps et la crise de l'essence.

Comme je vous l'avais laissé entendre, je vais faire en Avril prochain un voyage en Europe du Nord afin de réfléchir avec nos collègues sur l'avenir de la recherche dans le domaine des conditions de travail.

La petite note ci-jointe vous décrira mes intentions et vous verrez sur le programme de voyage que j'espère passer trois jours à Helsinki. J'espère que vous serez dans votre ville à ce moment-là et que j'aurai le plaisir de vous rencontrer.

Je vous serais très reconnaissant de bien vouloir m'adresser une liste de chercheurs chevronnés (comme par exemple votre Directeur le Professeur Noro) et de jeunes chercheurs inventifs (comme vous) qui, dans les quatre pays du Nord peuvent m'aider à poser les problèmes de recherche pour demain et non pas pour hier.

Je ne souhaite pas voir beaucoup de monde, sauf peut-être au cours de réunions de travail, car je voudrais être en état de réfléchir après trois jours de voyage.

Je vous remercie à l'avance de me rendre ce service et vous adresse mes sentiments très amicaux.

A. Wisner

N.B. Je peux vous adresser d'autres notes et d'autres programmes de voyage si vous souhaitez les communiquer à certains collègues. Sinon je les adresserai moi-même.

TYÖTERVEYSLAITOS
INSTITUTE OF OCCUPATIONAL HEALTH

Dir. Prof. M. J. Karvonen, M.D., Ph.D.

Département de Physiologie/Groupe d'Ergonomie/
IK/tmi

Monsieur le Professeur Wisner
Conservatoire National des Arts
et Métiers
Physiologie du Travail
41, Rue Gay-Lussac
75005 PARIS
France

Le 19 Mars, 1974

Cher ami

Je vous informe que nous avons réservé une chambre pour vous à l'hôtel HESPERIA pendant 14.4. - 17.4., mais la date est changeable.
Je vous prie d'informer votre arrivée à l'hôtel avant votre départ de Stockholm si la date est inconvenable.
L'adresse de l'hôtel: Mannerheimintie 50, Helsinki et téléphone 441 311 ou téléx 12/2117.

En souhaitant vous bienvenu ici,

L'INSTITUT DE MEDECINE DU TRAVAIL

Ilkka Kuorinka

pour Taina Mäki-Imppula
Taina Mäki-Imppula
secrétaire du groupe
d'ergonomie

HAARTMANINKATU 1 SF-00290 HELSINKI 29 FINLAND TEL. 413 622

4 Mars 1974

Monsieur le Docteur Kuorinka
INSTITUT DE MEDECINE DU TRAVAIL
Haartmaninkatu 1
SF 00290 HELSINKI 29
(Finlande)

Cher ami,

Je vous remercie beaucoup d'avoir préparé mon séjour à Helsinki. Le programme que vous me proposez me paraît excellent, d'autant plus qu'il n'est pas très chargé. En effet, je souhaite avoir le temps de réfléchir et de rédiger au cours de ce voyage, et ne pas revenir très fatigué.

En ce qui concerne le jour et l'heure de mon arrivée, je me permettrai de vous les préciser quand je serai à Stockholm. En ce qui concerne mon départ, je pense partir le mercredi 17 pour Oslo à 17 h 40.

Je vous serais reconnaissant de me retenir une chambre d'hôtel pour une personne dans le centre de la ville. Sans qu'il s'agisse d'un éta blissement de luxe, il me sera possible de résider dans un hôtel convenable, étant donné que je fais un voyage à titre officiel.

Dans l'attente de vous revoir, je vous prie d'agréer, cher ami, l'expression de mes sentiments très cordiaux.

A. Wisner

TYÖTERVEYSLAITOS
INSTITUTE OF OCCUPATIONAL HEALTH

Dir. Prof. M. J. Karvonen, M.D., Ph.D.

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IK/tmi

Monsieur le Professeur Wisner
Conservatoire National des Arts et
Métiers
Physiologie du Travail
41, Rue Gay-Lussac
75005 PARIS
France

Le 22 Fevrier 1974

Cher ami,

J'étais très heureux en lisant que votre voyage se réalisera, et nous pouvons vous accueillir à Helsinki ce printemps. Notre institut sera votre hôte avec plaisir pendant ce séjour.

J'ai commencé à arranger le program que sera aussi libre que possible et qu'on peut modifier selon les besoins.

Nous proposons un program suivant

Lundi 15 — (c'est le jour de fête), libre, sauf le dîner avec un petit groupe de chercheurs.

Mardi 16 11.00h — un réunion avec des membres de l'institut qui presenteront leurs idées de la situation sur les conditions du travail. Dans la suite vous pouvez choisir cette personne (ou plusieurs) qui est la plus interessante de votre point de vue et vous approfondir avec elle sur ces problems.

Mercredi 17 — un réunion avec trois personnes:

- un réprésentent de l'industrie
- un représentent de la confédération des syndicats ouvriers de Finlande
- un représentent de l'inspection de travail

ou 12H40

Je vous demande si le program ci-joint est au point et si vous y voulez ajuster ou supprimer quelque chose.

En vous attendant nous vous adressons nos meilleurs salutations et vous souhaitons la bienvenue à Helsinki.

L'INSTITUT DE MEDECINE DU TRAVAIL

Ilkka Kuorinka

HAARTMANINKATU 1 SF-00290 HELSINKI 29 FINLAND TEL. 413 622

Commission ROTHAN
JARRY
+ Tocco

~~Variétés~~ des techniques
Variété
pensé la dimension

par exemple penser autre chose
que l'ancienneté

sanding with sand forbidden

produits cyclés dans le futur

Professor Ulf Ulfvarson
Tekniska enheten
Arbetsmedicinska avd.
Kungl. Arbetarskyddsstyrelsen
Fack
100 26 Stockholm 34

Cher Monsieur,

J'espère que la journée a été plus riche qu'hier.

Je n'ai pas réussi de vous joindre chez Gardeil ni par téléphone ni personnellement.

Si vous voulez est-ce que

vous pouvez me telephoner
après 17^{00} au numero
629542.

Leuf

STATISTICAL INFORMATIONS ABOUT THE PRESENT LABOUR PROTECTION RESEARCHES

1. THE LEVEL OF RESEARCHES

1.1 The quality of researches:

(1) Researches in the level of licenciate- and thesis	9
(2) Technical researches required for a diploma in the Institutes of Technology	26
(3) Social, sociological, psychological etc. researches required for a graduation in the Universities	141
(4) Laboratory experiments	99
(5) Magazine articles	72
(6) Others	75
Altogether	422

1.2. The education of researchers

1.2.1 Technical researchers

(1) Doctors in Technology	7
(2) Licenciates in Technology	3
(3) Diploma Engineers	37
(4) Engineers	7
(5) Students	22
Technical researchers altogether	76

1.2.2 Other branches of science

(1) Doctors	40
(2) Licenciates	50
(3) Masters	76
(4) Students	151
(5) Others	26
(6) Education or degree not known	14
Altogether	357

433 researchers altogether

2. THE RESEARCHES OF DIFFERENT BRANCHES OF SCIENCE

2.1	Labour protection researches of technology	125
2.2	Labour protection researches of medicial science	87
2.3	Labour protection researches of social sciences	132
2.4	Juridical labour protection researches	72
2.5	Labour protection researches of other branches of sciences	6
	Altogether	422

3. THE RESEARCH INSTITUTES

(1) The Universities	148
(2) The Institutes of Technology	35
(3) The Technical Research Centre of the State (VTT)	18
(4) Other research institutes	43
(5) The Social Innerance Institution (Kela) and Central Pension Security Institute (Eläketurvakeskus)	16
(6) Institute of Occupational Health	89
(7) Others	73
Altogether	422

Le program pour la visite de M. le Professeur A. Wisner
à Työterveyslaitos (Institut de Medecine du Travail)
le 16 Avril

11.00[H] Réunion commun avec les représentents de Työterveyslaitos et organisme de l'Inspection du Travail

1 ✕ prof. Karvonen: The role of Työterveyslaitos in changing the working conditions

2 ✕ Mme Irma Karjalainen: The trends of research in the area of the work inspection

(5) 12.50 Mme Hänninen: The trends in the research of the working conditions from the point of view of the occupational psychology and -sociology

3 ✕ M. Koskela: The effect of information collected by Työterveyslaitos on the working conditions

M. Rantanen: The research of the chemical environment in the work places

4 12.30 M. Lehtinen: The research trends in the areas of physical technical hygiene

- M. Kuorinka: The possibilities of the ergonomics in changing the working condition

After the presentations the participants are requested to reserve some time for further discussion.

Programme de M. le Professeur Wisner à Helsinki 14-17 Avril 1974

Dimanche	14 Avril		Arrivée Helsinki
Lundi	15		Dîner à 20h
Mardi	16	9h	M. Raimo Kärkkäinen, sécretaire de securité, Confédération des syndicats ouvriers de Finlande, Siltasaarenkatu 3-5 A
		11h	Réunion à Työterveyslaitos (voir programme ci-joint)
Mercredi	17	10h	M. Mikko Niemi, chef de département. Ministére de l'éducation, Rauhankatu 4
		13h	M.M. Lehtinen, Karhu, Trappe. Ovako Oy, Département administrative de la personnel
		19h	Depart pour Oslo

Programme pourla visite chez l'Academie Finlandais n'est pas fixée en ce moment-lá.

LOAD FACTOR		CAUSE FACTOR								
MAGNI-TUDE	TYPE	TECHNOLOGY	ROOM, BUILDINGS	MATERIAL FLOW	LAY-OUT	MACHINES	TOOLS, AIDS	WORK ORGANISATION	WORK METHOD	WORK PLACE DESIGN
	NOISE									
	DUST, SMOKE									
	CLIMATE									
	BODY POSITION									
	SPACE									
	CIRCULATORY LOAD									
	SENSORY LOAD									
	CONFINEMENT MONOTONY									
	CONTACT POSS.									
	CODP. POSS.									
	DISTURBANCE OUTWARDS									
	DISTURBANCE INWARDS									
	SUM									

DANEMARK

12 Mars 1974

Monsieur F. Bonde-Petersen

Laboratory for the theory of gymnastics
August Krogh Institute
Universitetsparken 13

DK 2100 COPENHAGUE
(Danemark)

Cher ami,

Je suis encore honteux de n'avoir pas donné suite à mon intention de vous visiter lors de mon dernier voyage dans les pays nordiques, qui fut vraiment bref.

Cette fois, j'espère que mes intentions seront vraiment réalisées puisque je vais en mission, comme le montrent les papiers qui sont joints à cette lettre.

Jusqu'ici, je n'ai écrit à Copenhague qu'au Professeur Forssman qui est maintenant au WHO. Je vous serais très reconnaissant s'il vous était possible de répondre à mes besoins. En tout cas, je serais très heureux de connaître vos opinions personnelles sur l'avenir de notre spécialité, et celles du Professeur Christensen, s'il se trouve à Copenhague à ce moment-là.

Comme mon premier séjour à Copenhague est très bref, j'envisage d'y retourner soit autour du week-end du 20/21, soit à mon retour vers Paris le mercredi 23 Avril. Peut-être pourrions-nous prendre des décisions précises quand je vous verrai comme je l'espère, le lundi 8 Avril ?

Veuillez agréer, cher ami, l'expression de mes sentiments très cordiaux.

A. Wisner

1er Avril 1974

Monsieur F. Bonde-Petersen
Laboratory for the theory of gymnastics
13 Universitetsparken
2100 COPENHAGEN Ø
(Danemark)

Cher ami,

Je vous remercie beaucoup de votre aimable lettre du 29 Mars. Je serai effectivement à Copenhague le 8 Avril. J'ai rendez-vous avec le Professeur Forssman à l'O.M.S. le matin et dois déjeuner avec lui.

J'ai l'intention d'aller vous voir, ainsi que le Professeur Asmussen, l'après-midi, si cela ne vous gêne pas. Au cas où vous auriez une difficulté, vous pourriez me joindre soit à l'hôtel Sheraton, soit le lundi matin, entre 10 et 13 h, au bureau du Professeur Forssman.

Je vous prie de transmettre au Professeur Asmussen l'expression de mes sentiments respectueux et d'agréer, cher ami, l'assurance de mes sentiments très cordiaux.

A. Wisner

UNIVERSITY OF COPENHAGEN · AUGUST KROGH INSTITUTE
LABORATORY FOR THE THEORY OF GYMNASTICS
13, UNIVERSITETSPARKEN · 2100 COPENHAGEN Ø · DENMARK · TELEPHONE 37 70 00

29 Mars 1974

Professeur A. Wisner,
41, Rue Gay-Lussac,
75005 Paris,
Frankrig.

DANEMARK

Cher ami,

You are very welcome here in Copenhagen. I have told prof. Asmussen about your visit, and we expect you to show up on the laboratory next monday april the 8th. If you have got any problems with hotel reservations etc. please inform me either on the laboratory or to my home address:

Kompagnistræde 8, III,
DK - 1208 Copenhagen,
telephone: (01) 11 10 53.

Veuillez agréer, cher ami, l'expression de mes sentiments très amicaux.

Flemming Bonde-Petersen

1er Avril 1974

Monsieur le Professeur Forssman
ORGANISATION MONDIALE DE LA SANTE
8 Scherfigsvej
DK.2100 COPENHAGUE Ø
(Danemark)

Cher ami,

Je vous remercie beaucoup de votre invitation pour le lundi 8 Avril à 10 heures, à laquelle je ne manquerai pas de me rendre.

J'ai bien reçu les documents annoncés et vais les étudier avec soin.

Je suis heureux de vous revoir bientôt et vous prie d'agréer, cher ami, l'expression de mes sentiments très cordiaux.

A. Wisner

WORLD HEALTH ORGANIZATION
Regional Office for Europe

ORGANISATION MONDIALE DE LA SANTÉ
Bureau régional de l'Europe

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
Европейское Региональное Бюро

8, Scherfigsvej
DK-2100 COPENHAGEN Ø - Denmark

8, Scherfigsvej
DK-2100 COPENHAGUE Ø - Danemark

TELEGR.: UNISANTE Copenhagen
TELEX: 15348
TEL.: (01) 29 01 11

Our reference
Notre référence
См. наш номер
R4/27/3 (W)

Your reference
Votre référence
На Ваш номер

18 March 1974

Dear Professor Wisner,

Thank you for your letter of 11 March. I was pleased to hear from you after all these years and am looking forward very much to meeting you again. I would suggest that you come to the Regional Office on Monday 8 April at 10 a.m. We would then have plenty of time for discussions and I would like to invite you for lunch.

Your study on new research programmes for the near future sounds most interesting and I shall be glad to hear more about it. I was asked three years ago by the Minister of Health and Social Welfare in Sweden to study the needs for research in occupational health for the next five years. After collecting information in Sweden, I had also the opportunity of discussing this problem with experts from other countries before I submitted my report in April 1972. I am sending you under separate cover a summary of this report in English, as presented at the International Congress on Occupational Health in Buenos Aires in September 1972, as well as a few other publications.

I am looking forward to seeing you soon.

With kind regards,

Yours sincerely,

Sven Forssman
Chief Technical Adviser
Poland 5201 Project

Professor A. Wisner
Département des Scienees de
l'Homme au Travail
Conservatoire national des Arts
et Métiers
Ministère de l'Education nationale
41, rue Gay-Lussac
75005 Paris, France

11 Mars 1974

Monsieur le Professeur Sven Forssman
W H O
8 Scherfigsvej
2100 COPENHAGEN

Copie : N. Petersson

Dear Professor Forssman,

As you may see on the other papers of this mail, I intend to visit northern countries in April.

I thought I will meet you in Stockholm, but I have learned that you are now at WHO in Copenhagen. I would be very happy to visit you at WHO monday 8th or tuesday 9th in the morning. If it is not possible, I will come back in Copenhagen either around the week-end of 20th/21st April, or in the middle of the week 22nd/26th, when I will come back to Paris. In fact I will stay 3 or 4 days more in Oslo to attend a meeting of AGARD from 22nd to 24th.

I am introduced in Stockholm by N. Lundgren and my former student N. Petersson, and in Finland by another former coworker I. Kuorinka. I have received a nice letter from L. Sjøflot who will help me in Oslo, and I will write in Copenhagen to Bonde-Petersen who has worked in Paris some ten years ago.

In fact, I would like to meet you and receive some indications about some new trends of research and fresh researchers who will be new to me in the northern countries.

I hope to meet you in Copenhagen.

Truly yours,

A. Wisner

? mirid load / information thing

- TRONDHEIM

- STOCKHOLM : SVEN-ÅKE Johansson Institute of technology
Department industrial organisation

COPENHAGUE
- GUNNARSON Dep ~~tech~~ industrial Engineering

KEIDING
Danmarks Institute of Technology
LINGBY

- KUORINKA

- Institute of occupational hygiene NURU
KARVONEN

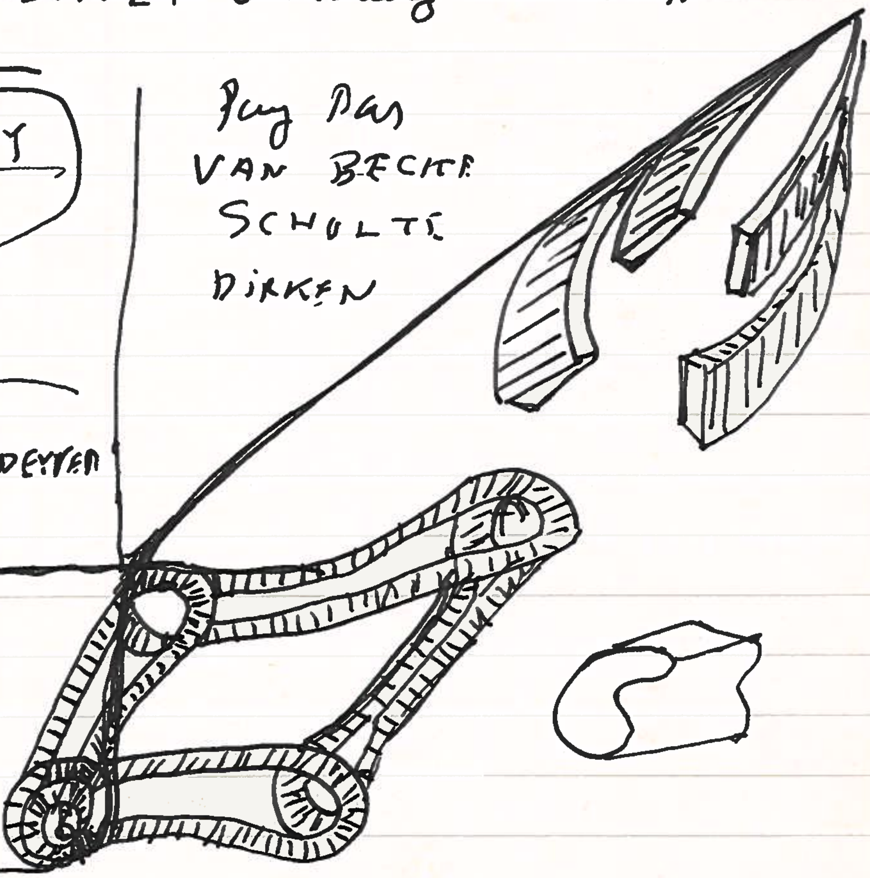
- DEUTSCHLAND - KORF
- WARNECKE / ~~Institut~~ Technical Universität STUTTGART

- RAMEAU
- TARRIERE
- REYNAUD
- MYON
- VOLT
- MONTMOLLIN
- (SAVIEM) VANDEVYER
- LEHMAN

CUNY

Guy Das
VAN BECKE
SCHULTE
DIRKEN

- ODESCALCHI
- GIRARD
- NAVARRO



Rolf Lindholm
Jan-Peder Norstedt
} Svenska Arbetsgivareföreningen
Box 16 120, Stockholm 16

Dr Erik Bolinder

LO
Barnhusgatan 18, Stockholm

1 – 5th July

Int Barclay

note to him

KØBENHAVNS UNIVERSITET · AUGUST KROGH INSTITUTET
GYMNASTIKTEORETISK LABORATORIUM
UNIVERSITETSPARKEN 13 · 2100 KØBENHAVN Ø · TLF. (01) *37 70 00

Prf. A. Wisner
Hotel Viking vær 312
Biskop Gunnerus Gate 3
OSLO - I
N - NORGE
==========

19.4.74

Cher amis
Just to inform you that I have arranged a meeting with dr. Fanger wedensday april 24 at 9.oo a.m. I tried to reach you via telephone, but you were not in. I shall try again, but if you want anything to be altered, please inform me.

By the way, if you are not occupied the 23 of april in the evening, you would be very welcome at our place for dinner at 7.30 p.m. My home address:
Kompagnistræde 8 III
12o8 Copebhagen K.
telephone (01) 11 10 53.

bien amicalement

Flemming Bonde-Petersen

NORVEGE

1er Avril 1974

Monsieur Lars Sjøflot
Landbruksteknisk Institutt
p.o. Box 65
N.1432 AS-NLH
(Norvège)

Cher Monsieur,

Je suis très touché du mal que vous vous êtes donné pour mon séjour.

Je vous confirme ma réservation à l'hôtel Viking et suis très heureux du programme que vous avez organisé. Tout me paraît très intéressant.

Il me paraît difficile de confirmer ma visite aux chercheurs que vous avez prévenus. Je vous serais donc reconnaissant de bien vouloir le faire vous-même si cela est possible.

Je vous remercie beaucoup de votre invitation à visiter votre Institution à As.

Je vous prie d'agréer, cher Monsieur, avec mes remerciements, l'expression de mes sentiments dévoués.

A. Wisner

LANDBRUKSTEKNISK INSTITUTT

THE NORWEGIAN INSTITUTE OF AGRICULTURAL ENGINEERING

DIRECTOR ....: KRISTIAN AAS
ADM. OFFICER: ANSGAR KROG

P.O.BOX 65, N-1432 ÅS-NLH, NORWAY
TELEPHONE: 47 2 94 00 60

Professor A. Wisner,
Laboratoire de Physiologie du Travail
et Ergonomie,
41 rue Gay-Luccac,
Paris 5eme,
France

NORVEGE

YOUR REF.

OUR REF.
LS/lsh

DATE
March 25, 1974

Dear Professor Wisner,

From your letter of March 12, it was interesting to learn that you are going to attend the AGARD meeting in Oslo. I am going to attend this meeting too, so we will there have the opportunity of talking together.

For your stay in Oslo I have reserved a room for you from Wednesday, April 17 afternoon to Wednesday April 24 at HOTEL VIKING, address: Biskop Gunnerus gate 3, Oslo 1, Norway. Phone: (02) 33 64 70.

This should be a decent hotel in the centre of the city that I hope will suite you. Any changes in your travelling plans, or special wishes, I hope you can make out with the hotel directly yourself.

Mr. Gulowsen will be pleased to meet you, and I suggest that you take direct contact with him under the address: Arbeidsforskningsinstituttene, P.o.boks 8149, Oslo Dep, Oslo 1, Norway. Phone number is (02) 46 68 50. He will probably arrange for you to meet with more of his colleagues.

At the Work Research Institutes (Arbeidsforskningsinstituttene) I also would suggest you to take contact with Mrs. Greger Ramberg. She has promissed to guide you in meeting with scientists and other persons of interest for you at the Institute of Work Physiology and Institute of Occupational Health. Among others Dr. Lars Hermansen will have some work physiology experiments going on April 18.

Mr. Arne Bruusgaard at the Labour Inspection Services will also be pleased to meet you. There you also may find it useful to talk with Dr. Bjørn Hellstrøm, who has been doing considerable research on work physiology. The address is: Direktoratet for arbeidstilsynet, P.o. boks 8103, Oslo Dep., Oslo 1, Phone : (02) 46 98 20.

Based on this information I would suggest the following plan for your visit in Oslo:

Wednesday, April 17 :	Arrival at Hotel Viking
Thursday, " 18 :	Work Research Institutes (Arbeidsforsknings-instituttene), Gydas vei 8, Oslo 3.
	Guide: Mrs. I. Greger Ramberg
	Mr. Gulowsen and colleagues.

WORK RESEARCH INSTITUTES (cont.)

Friday, April 19 : Guide: Mr. Gulowsen and colleagues
Labour Inspection Services,
Fridtjof Nansens vei 14, Oslo 3.
Mr. Arne Bruusgaard, Dr. Bjørn Hellstrøm

Saturday - Sunday evening: Copenhagen or free in Oslo.

Monday - Wednesday,
April 22 - 24: AGARD meeting in Oslo. Shorter professional visits that can be arranged without long time ahead appointment.

On this short stay you can hardly expect to see much outside Oslo.
At the Tecnical University of Trondheim you might have found something of interest, but that can be left to your next visit in Norway. Professor Dupuis will visiting us here in Ås on Wednesday, April 24. He will be attending the AGARD Meeting, as you probably know. He will give a lecture at the Agricultural University here. If you should like to join us for a part of that day here you are welcome, indeed. We can talk further on that at the meeting.

I do hope that the contacts I have suggested for you will be to help, and that you from these can make out a useful programme in detail.

With the best wishes for a successful trip to the North.

Sincerely yours,

Lars Sjøflot

Lars Sjøflot

12 Mars 1974

Monsieur Lars Sjøflot
Landbruksteknisk Institutt
p.o. box 65
N.1432 AS-NLH
(Norvège)

Copie : N. Petersson

Dear Dr Sjøflot,

It is really nice of you to send me a letter before I have directly written to you, and I must tell you how friendly I feel your message.

In fact, I am visiting northern countries in April following a time schedule that has been a little extended. I will attend AGARD meeting that will take place in Oslo from April 22nd to 25th. Now my intention is to stay in Oslo from Wednesday 17th evening to Wednesday afternoon 24th, but I will perhaps have to go to Copenhagen for the week-end to visit some family I have there.

Of course, during the 3 days of the AGARD meeting, I am supposed to take part of it but I can certainly be away for an half day if you organize a meeting or a visit.

My interests are very diverse, as you can see in the papers I put in this mail. In your country I will be certainly most interested to learn about new trends and opinions in research in plant design and industrial democracy (former work of Thorsaud, Engelstad,Ödegaard, Bregard and Gulowsen in diverse norwegian factories, Hunfos Mill in Kristiansand, Nobø in Trondheim, Norsk Hydro Oslo). I am more interested by the future of these researches than by the description I have read in different papers.

Of course, I remain an ergonomist and a work physiologist, but I am looking to the relations between my speciality and new thinking on work design.

It would be very nice to reserve me a room for one person in an hotel of the center of the city for these 7 (or 5) days I will spend in Oslo. Without being a luxury hotel, it can be a decent one as I am travelling on government expenses.

With my best greetings and thanks.

Truly yours,

A. Wisner

LANDBRUKSTEKNISK INSTITUTT

THE NORWEGIAN INSTITUTE OF AGRICULTURAL ENGINEERING

DIRECTOR ....: KRISTIAN AAS
ADM. OFFICER: ANSGAR KROG

P.O.BOX 65, N-1432 ÅS-NLH, NORWAY
TELEPHONE: 47 2 94 00 60

Professor Alain Wisner,
Laboratorie de Physiologie du Travail,
41 rue Gay-Lussac,
Paris 5 ème,
France

YOUR REF.

OUR REF.
LS/lsh

DATE
March 8, 1974

Dear Professor Wisner,

From Mr. Nils Petterson in Sweden I have reseived a preliminary programme for your visit in the Nordic countries in April. The background and the goal for this travel sounds most interesting, and we will be happy for assisting you as far as we can to get the best out of your visit.

As the secretary of the Nordic Ergonomics Society I really like to welcome you to the Nordic countries, and I hope you can find time to a short talk with our chairman Mr. Arne Bruusgaard, Labour Inspection Services in Oslo, or with me. You will probably meet with other members of our Society or even the Council, in the other countries. As far as I understand your visit in Denmark, Finland and Sweden is taken good care of.

In Norway I do not know what connections you have or what kind of arrangements for the short two-days stay you already have made. If you like me to assist in giving any suggestions of places to visit or arrangements to make, please let me know as soon as possible.

With the best wishes for a successful trip to the North.

Sincerely yours,

Lars Sjøflot

Lars Sjøflot
Head of Human Factors Research

12 Mars 1974

Lieutenant Colonel P. Varene
AGARD-NATO
7 rue Ancelle
92200 NEUILLY SUR SEINE

Cher Monsieur,

Je vous remercie de m'avoir adressé de façon répétée l'invitation à me rendre à la réunion d'Oslo, puisque j'ai fini par me décider à l'occasion d'un voyage de prospective de recherche subventionné par la D.G.R.S.T.

Suivant vos conseils, j'ai appelé le Docteur Colin qui a bien voulu me patronner et je vous ai adressé la fiche contenue dans le dossier.

Veuillez agréer, cher Monsieur, l'expression de mes sentiments dévoués.

A. Wisner

MINISTÈRE DES ARMÉES

DELEGATION MINISTERIELLE POUR L'ARMEMENT

DIRECTION DES RECHERCHES ET MOYENS D'ESSAIS

26, Boulevard Victor - 75996 PARIS ARMÉES

Tél. : 828.70.90 - Poste : 45 03

SERVICE DES RECHERCHES

GROUPE 9 : BIOLOGIE ET SCIENCES HUMAINES

DIVISION : BIOLOGIE

PARIS, le 6 Mars 1974

N° 003322 /DRME/SDR/ G.9./1

BORDEREAU D'ENVOI

des pièces adressées à : Destinataires IN FINE.

NUMÉRO des pièces	DÉSIGNATION	NOMBRE	OBSERVATIONS
	- Programme de la prochaine réunion de la commission de médecine aérospatiale de l'AGARD.		TRANSMIS POUR INFORMATION à toutes fins utiles.
	DESTINATAIRES : - GERBTOS Avenue de l'Europe 92 - VELIZY		
	- Laboratoire de physiologie du travail du CNAM 43, rue Gay Lussac 75005 - PARIS		
	- ADOM Parc de Tourvoie 92 - ANTONY		
	- Monsieur Le Professeur BURGEAT Centre de biophysique Sensorielle Hôpital Lariboisière 2, rue Ambroise Paré 75010 - PARIS		Le Pharmacien Shimiste en Chef de 1° cl. JEZEQUEL Chef du Groupe 9 BIOLOGIE ET SCIENCES HUMAINES
	COPIES à : - AI - G.9./1 - SDR/CHRONO - ARCHIVES		

AGARD

ADVISORY GROUP FOR AEROSPACE RESEARCH AND DEVELOPMENT

NORTH ATLANTIC TREATY ORGANIZATION
7 Rue Ancelle · 92200 Neuilly sur Seine · France

Tel. 722 28-00

January 1974

MEETING ANNOUNCEMENT

AEROSPACE MEDICAL PANEL

SPECIALISTS MEETING

A - SIMULATION AND STUDIES OF HIGH WORKLOAD OPERATIONS

B - VIBRATION AND COMBINED STRESSES IN ADVANCED SYSTEMS

to be held

in

INGENIØRENES HUS
Kronprinsens Gate 17
OSLO 2 NORWAY

22-25 APRIL 1974

LATEST ENROLMENT : 1 APRIL 1974

MEETING ORGANIZATION

Chairman of the Aerospace Medical Panel :

Colonel J. F. CULVER, USAF, MC
PSC No. 3, Box 6606
APO San Francisco 96553, U.S.

Deputy Chairman of the Aerospace Medical Panel:

Major General H.S. FUCHS, GAF, MC
Amtschef
Sanitätsamt der Bundeswehr
5300 Bonn - Beuel 1
Platanenweg 29, Germany

Host Coordinator and Program Organizer :

Lt. Colonel A. BORG
Royal Norwegian Air Force
Oslo Mil/Huseby
Oslo

Session Organizers :

Session A

Wing Commander A.N. NICHOLSON
RAF Institute of Aviation Medicine
Farnborough, Hants, England

Session B Dr. H.E. VON GIERKE
Chief, Biodynamics & Bionics Division
6570 AMRL (MRBA)
Wright-Patterson AFB
Ohio 45433, U.S

Panel Executive :

Lt. Colonel P. VARENE, FAF
AGARD-NATO
7 rue Ancelle
92200 Neuilly sur Seine, France
Telephone : 722 28 00

AEROSPACE MEDICAL PANEL SPECIALISTS MEETING

Ingeniørenes Hus
Kronprinsens Gate 17
OSLO 2 - - NORWAY

22-25 April 1974

TECHNICAL PROGRAM

MONDAY 22 APRIL

0800 - 0845 Registration

0845 - 0915 Opening Ceremony
National Delegate
Surgeon General
ASMP Chairman

0925 - 1730 SESSION B - VIBRATION AND COMBINED STRESSES IN ADVANCED SYSTEMS

0925 - 0940 Introductory Remarks by Session Chairman,
Dr. H.E. VON GIERKE, U.S.

0940 - 1230 I - OPERATIONAL VIBRATION PROBLEMS AND LABORATORY SIMULATION

Chairman : Lt. Col. A. BORG

0940 - 1000 B 1 - Aircrew Assessment of the Vibration Environment in Helicopters
by B.H. RANCE and J.W. CHAPPELOW, U.K.

1000 - 1020 B 2 - Human Exposure to Whole-Body Vibration in Military Vehicles and Evaluation by Application of ISO/DIS 2631
by H. DUPUIS, Germany

1020 - 1040 B 3 - Crew Performance of Requirements in the Vibration Environments of Surface Effects Ships
by A. SKOLNICK, U.S.

1040 - 1100 Coffee

Chairman : Major Gen. H.S. FUCHS

1100 - 1120 B 4 - Development of a High Fidelity Vibration Simulator for Human Experimentation on Surface Effect Ship Problems
by C.L. EWING, W.H. MUZZY III, and P. SEAL, U.S.

1120 - 1140 B 5 - The Transmission of Angular Acceleration to the Head in the Seated Human Subject
by B.H. RANCE and G.R. BARNES, U.K.

1140 - 1200 B 6 - The Effect of the Individual and Combined Stresses of Vibration and Sustained G on Pilot Performance
by R.J. CROSBIE and A.G. PIRANIAN, U.S.

1200 - 1220 B 7 - Effects of Transient Vibrations on Human Safety and Performance
by L. VOGT, Germany

1220 - 1230 Discussion

1230 - 1400 Lunch

./.

MONDAY 22 APRIL
(Continuation)

1400 - 1730 II - PHYSIOLOGICAL EFFECTS AND INJURY AS A RESULT OF VIBRATION EXPOSURE

Chairman : Professor W.D. KEIDEL

1400 - 1420 B 8 - Action des Vibrations de Basses Fréquences sur le Système Cardio-Vasculaire de l'Homme (The Effect of Low Frequency Vibrations on Man's Cardiovascular System)
by J. DEMANGE, R. AUFFRET and B. VETTES, France

1420 - 1440 B 9 - Effects of Vibrational Stress on the Cardiovascular System of Animals
by E.P. McCUTCHEON, U.S.

1440 - 1500 B 10 - Laboratory Studies on Chronic Effects of Vibration Exposure
by D.V. STURGES, U.S.

1500 - 1520 B 11 - Serum and Urine Changes in Macaca Mulatta Following Prolonged Exposure to 12 Hz, 1.5. g Vibration
by D.W. BADGER, U.S.

1520 - 1540 Coffee

Chairman : Col. W. WISECUP

1540 - 1600 B 12 - The Medical Effects of an Attempted Simulation of Surface Effect Ship Motion
by D.J. THOMAS, P. MAJEWSKI, C. SPENCE and C.L. EWING, U.S

1600 - 1620 B 13 - Phénomènes Vibratoires Rapides en Vol et Fractures du Rachis (Rapid Vibratory Phenomena in Flight and Rachis Fractures)
by R. AUFFRET, R.P. DELAHAYE and J. SALVAGNIAC, France

1620 - 1640 B 14 - The Effect of Vibration on the Musculoskeletal System
by W.M. BRAUNOHLER, U.S.

1640 - 1700 B 15 - Medical Effects of Hand-Transmitted Vibration and Consideration of a Standard for Hand-Held Vibratory Tools
by W. TAYLOR, U.K.

1700 - 1720 B 16 - A Study of Vibration, Pilot Vision and Helicopter Accidents
by M.J. GRIFFIN, U.K.

1720 - 1730 Discussion

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TUESDAY 23 APRIL

0900 - 1715 SESSION B - VIBRATION AND COMBINED STRESSES IN ADVANCED SYSTEMS (Continuation)

0900 - 1030 III a - EFFECTS OF VIBRATION AND COMBINED STRESS ON MISSION CAPABILITY

Chairman : Group Captain P. HOWARD

0900 - 0920 B 17 - Mechanisms of Vibration Effects on Aircrew Performance
by R.W. SHOENBERGER, U.S.

0920 - 0940 B 18 - Performance and Physiological Effects of Combined Stress including Vibration
by J.C. GUIGNARD, U.S.

0940 - 1000 B 19 - The Effects of Duration of Vertical Vibration beyond the ISO "Fatigue-Decreased Proficiency" Time, on the Performance of Various Tasks
by R.T. WILKINSON, U.K

1000 - 1020 B 20 - A Peripheral Vision Horizon Display
by R. MALCOLM, K.E. MONEY, and P. ANDERSON, Canada

1020 - 1030 Discussion

1030 - 1100 Coffee

1100 - 1230 IIIb - MODELS TO EXPLAIN AND PREDICT VIBRATION/COMBINED STRESS EFFECTS

Chairman : Dr. W.L. JONES

1100 - 1120 B 21 - A Review of Biodynamic Models for the Evaluation of Vibration Stresses
by W. LANGE, Germany

1120 - 1140 B 22 - An Elementary Psychophysical Model to Predict Ride Comfort in the Combined Stress of Multiple Degrees of Freedom of Motion
by R.W. STONE, Jr., U.S.

1140 - 1200 B 23 - Models of the Circulatory System under Vibration Stress
by C.F. KNAPP, U.S.

1200 - 1220 B 24 - Evaluating Biodynamic Interference with Aircrews
by H.R. JEX and R.W. ALLEN, U.S.

1220 - 1230 Discussion

1230 - 1400 Lunch

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TUESDAY 23 APRIL
(Continuation)

1400 - 1510 IV a - EXPOSURE STANDARDS

Chairman : Lt. Col. R. AUFFRET

1400 - 1420 B 25 - The ISO Guide for the Evaluation of Human Whole-Body Vibration Exposure
by G. BOBBERT, Germany

1420 - 1440 B 26 - Initial Proposals for Vertical Vibration Limits 0.1 to 1.0 Hz
by G.R. ALLEN, U.K.

1440 - 1500 B 27 - Ride Quality of Crew-Manned Military Aircraft
by S.H. BRUMAGHIM, U.S.

1500 - 1510 - Discussion

1510 - 1530 Coffee

1530 - 1640 IV b - INFRASOUND - TACTILE COMMUNICATION

Chairman : Dr. H. VON GIERKE

1530 - 1550 B 28 - A Study of the Physiological Effects of Exposure to 130 dB Infrasonic Levels in Man
by P. BORREDON, J. NATHIE and A. GIBERT, France

1550 - 1610 B 29 - Effet d'une Exposition a des Vibrations Aériennes de Basse Fréquence sur l'Activité Nocture du Rat (The Effect of Exposure to Low Frequency Air Vibrations on Rats' Night Activities)
by P. PESQUIES and J. NATHIE, France

1610 - 1630 B 30 - Vibratese Language
by W.D. KEIDEL, Germany

1630 - 1640 - Discussion

1640 - 1715 General Discussion and Closing Remarks

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WEDNESDAY 24 APRIL

0930 - 1730 **SESSION A - SIMULATION AND STUDY OF HIGH WORKLOAD OPERATIONS**

0930 - 1230 **I - OPERATIONAL ROLES**

Chairman : Wing Commander A.N. NICHOLSON, RAF

0930 - 0950 - Carrier Operations
A 15 by Rear Admiral D.D. ENGEN, U.S.

0950 - 1000 Discussion

1000 - 1010 - Maritime Operations
A 16 by Lt. Col. J.S. MIDDLETON, Canada

1010 - 1030 Discussion

1030 - 1045 Coffee

1045 - 1105 - Tactical Strike and Reconnaissance Roles
A 17 by Lt. Col. TER BRAAK, SHAPE

1105 - 1115 Discussion

1115 - 1135 - Air Defence Operations
A 18 by Wing Commander J. McLEOD, U.K.

1135 - 1145 Discussion

1145 - 1230 Final Discussion of Session

1230 - 1400 Lunch

1400 - 1630 **II - SIMULATION OF OPERATIONS**

Chairman : Lt. Col. D. MACNAMARA, CAF

1400 - 1415 - System Simulation : A Global Approach to Aircrew
A 1 Workload
by H.M. HUGHES, and B.O. HARTMAN, U.S.

1415 - 1430 - A Simulator Study to Investigate Human Operator
A 2 Workload
by P.H. WEWERINKE and J. SMIT, Netherlands

1430 - 1445 - Laboratory Research into Human Information Processing
A 3 by H.F. HUDDLESTON, U.K.

1445 - 1500 - Evaluating Measures of Workload Using a Slight Simulator
A 4 by J.M. ROLFE, J.W. CHAPPELOW, R.L. EVANS, S.J.E. LINDSAY and A.C. BROWNING, U.K.

1500 - 1515 Coffee

1515 - 1530 - A Flight Simulator Study of Missile Control Performance
A 5 as a Function of Concurrent Workload
by K.G.G. CORKINDALE

1530 - 1545 - Simulation of High Workload Operations in Air-to-Air Combat
A 6 by F.M. HOLDEN, D.B. ROGERS, and C.R. REPLOGLE, U.S.

1545 - 1630 Discussion

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WEDNESDAY 24 APRIL
(Continuation)

1630 - 1730 III - STUDY OF OPERATIONS

Chairman : Wing Commander A.N. NICHOLSON, RAF

1630 - 1645 A 7 - Pilot Landing Performance under High Workload Conditions
by C.A. BRICTSON, U.S.

1645 - 1700 A 8 - Pilot Workload and Work Capacity in Tactical Support Fighter Aircraft
by R.F. THATCHER, Canada

1700 - 1730 Discussion

THURSDAY 25 APRIL

0900 - 1230 III - STUDY OF OPERATIONS (continuation)

Chairman : Wing Commander A.N. NICHOLSON, RAF

0900 - 0915 A 9 - Evaluating Workload and Human Performance. The Problem facing Commander
by W.D. MACNAMARA, Canada

0915 - 0930 A 10 - Endocrine-Metabolic Indices of Aircrew Workload : An Analysis across Studies,
by H.B. HALE, R.R. BOLLINGER, B.O. HARTMAN and W.F. STORM, U.S.

0930 - 0945 A 11 - Time Dependence of the Flight Induced Increase of Free Urinary Cortisol Secretion in Jet Pilots
by G. ULBRECHT, E. MEIER, R. ROTHENFUSSER and K. von WERKER, Germany

0945 - 1000 A 12 - Biochemical and Mood Changes in Naval Aviators in High Workload Conditions, by W.B. McHUGH, U.S.

1000 - 1015 A 13 - Prediction of Pilot Performance : Biochemical and Sleep-Mood Correlates under High Workload Conditions
by C.A. BRICTSON, W. McHUCH and P. NAITOH, U.S.

1015 - 1030 A 14 - Long Range Air-to-Air Refuelling : A Study of Duty and Sleep Patterns
by N.H. MILLS and A.N. NICHOLSON, U.K.

1030 - 1115 Discussion

1115 - 1130 Coffee

1130 - 1230 Final Discussion and Closing Remarks

1230 ADJOURN

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GENERAL ORGANIZATION

WHO MAY ATTEND — Attendance is by invitation only and is normally limited to citizens of the NATO Nations. Applications shall be made to an AGARD National Delegate or Panel Member from the applicant's own country. Citizens of the German Federal Republic or of the U.S. must apply respectively through the appropriate German or U.S. Panel Coordinator. Information concerning names and addresses of National Delegates and Panel Members may be found in a recent AGARD Bulletin or requested from AGARD.

HOW TO ENROL — Properly invited individuals should complete the enclosed 'Application to Enrol' and mail it to arrive at AGARD before 1 APRIL 1974. Further information and material such as preprints, meeting folders, and name tages will be supplied to properly enrolled participants on or before registration at the meeting.

PRESENTATIONS — All presentations and discussions will be in English or French, the official NATO languages. Simultaneous interpretation facilities between the two languages will be available.

TRAVEL AND ROOM RESERVATION are the responsibilities of the individual participant. When ACCOMMODATION INFORMATION and RESERVATION FORM are provided, this is solely in order to assist participants and does not imply either AGARD involvement or responsibility.

AEROSPACE MEDICAL PANEL
SPECIALISTS MEETING
OSLO NORWAY
22-25 APRIL 1974

GENERAL INFORMATION No. 1

The provisional Technical Program of the Meeting has been planned as shown in the attached Announcement.

The Ingeniørenes Hus (Engineers' House) is located in the center of Oslo, and the hotels proposed by the Travel Bureau are in a walking distance from the meeting site. No means of transportation have been planned from the various hotels.

HOTEL ACCOMMODATION

Hotel reservations may be made by returning no later than 1 MARCH 1974 the attached form to :

Mr. Nils RIMO
NSB TRAVEL BUREAU
Forsvarsbygget
OSLO MIL/OSLO 1
NORWAY

Reservations must be followed by a deposit in the amount of NKR. 150 for which a receipt together with confirmation from the Travel Bureau will be sent to you. This receipt represents the first partial payment to the hotel. Cancellations received by the Travel Bureau after the month preceding your date of arrival will be subject to a "Cancellation Fee". Due to difficulties in obtaining hotel accommodation in the Oslo area, it will not be possible for all delegates to obtain single rooms with bath/shower.

SOCIAL AND LADIES PROGRAM

The social and ladies program is given in the attached Program Summary. Enrolment for any portion of this program must be made prior to 1 MARCH 1974 with the NSB Travel Bureau by returning the same form as the one used for hotel reservations. Tickets will be delivered at the NSB Travel Bureau desk at the Ingeniørenes Hus, Kronprinsens Gate 17, on Monday 22 April, from 0800 to 1000 hours.

Details regarding the conducted tours are given in the attachments.

AEROSPACE MEDICAL PANEL

SPECIALISTS MEETING

OSLO NORWAY

22-25 APRIL 1974

PROGRAM SUMMARY

TECHNICAL PROGRAM	SOCIAL PROGRAM	LADIES PROGRAM
<u>Sunday 21 April</u> 1900 - 2100 Registration	NIL	NIL
<u>Monday 22 April</u> 0800 - 0845 Registration 0845 - 0915 Opening Ceremony 0925 - 1230 Session B 1230 - 1400 Lunch 1400 - 1730 Session B	NIL	NIL
<u>Tuesday 23 April</u> 0900 - 1230 Session B 1230 - 1400 Lunch 1400 - 1715 Session B	NIL	<u>1000</u> Tour A* Sightseeing Lunch Holmenkollen
	<u>1900</u> ASMP Dinner at Hotel Bristol, Kristian IV gate 7, Oslo*	
<u>Wednesday 24 April</u> 0930 - 1230 Session A 1230 - 1400 Lunch 1400 - 1730 Session A	NIL	<u>1000</u> Tour B* Visit to Munch Museum and Vigeland Sculpture Park
<u>Thursday 25 April</u> 0900 - 1230 Session A	NIL	NIL
	<u>1230</u> Tour C* Lunch Najaden Restaurant, Bygdøy Visit to Kon Tiki - Fram and The Viking Ships Museum	

*Participants to pay NSB Travel Bureau

AGARD MEETING 22-25 April 1974

REQUEST FOR ACCOMMODATION

TO : Mr. Nils RIMO
NSB Travel Bureau
Forsvarsbygget
OSLO MIL/OSLO 1
Norway

NAME : _____

RANK/TITLE : _____

ADDRESS : _____

_____

Day and time of arrival _____ by _____

Day and time of departure _____ by _____

Type of accommodation required :

Singleroom: _____ Toilet/Bath/Shower

Doubleroom: _____ Toilet/Bath/Shower

Category A - B*

Special requirements _____

* Category A : Singleroom NKr. 140/150
Category B : Singleroom NKr. 75/100

RESERVATION FOR TOURS AND PANEL DINNER

		No. of participants
TOUR 'A'	23 April, 1000 hrs. NKr. 90 each	_____
TOUR 'B'	24 April, 1000 hrs. NKr. 90 each	_____
TOUR 'C'	25 April, 1230 hrs. NKr. 95 each	_____
ASMP DINNER	23 April, 1900 hrs. NKr. 125 each	_____

INFORMATION TO BE PROVIDED NO LATER THAN 1 MARCH 1974

- Tickets have to be collected at the NSB Travel Bureau Desk, at the Ingeniørenes Hus; Kronprinsens Gate 17, on Monday 22 April, from 0800 to 1000.
- Cash payment in NKR. is mandatory.
- Responsibility for reservation of accommodation and cancellation if necessary rests with the participant and not with AGARD.

TOUR 'A'

Tuesday 23 APRIL
Coach departure : 1000 hours
Conducted Tour

City sightseeing including a visit to the Town Hall and the Oslo Cathedral.

" The Town Hall with its two square towers is a distinctive landmark from far out at sea and from all over the town. Its architects were Arnstein Arneberg and Magnus Poulsson. The foundation stone was laid in 1931, and the building was inaugurated in 1950 as part of the celebrations commemorating the nine-hundredth anniversary of Oslo's foundation. It houses the mayor and town council, the revenue authorities, national registry, city treasurer's office, and other municipal offices. The Town Hall has been lavishly decorated by many of Norway's leading postwar painters and sculptors."

After having seen this unique piece of architecture, the coach will take us through the western suburbs up to the famous Holmenkollen Ski Jump.

Lunch at Holmenkollen Restaurant.

After lunch it will be a pleasure to show you the Cathedral of Oslo, which was built between 1694 and 1699; the Cathedral acquired its present appearance when it was restored in 1849-1850 under the director of a leading Norwegian architect, Arnstein Arneberg; it underwent further restoration in 1949-1950. The front of the organ which dates from 1727 is the work of the Danish organ builder, D.L. Karsten and ranks among his finest achievements. The organ itself, built by Walcher, of Ludwigsburg, Germany, has been in service since 1930.

Starting Point : Ingeniørenes Hus, Kronprinsens Gate 17

Duration : 6 hours

Preliminary Price (including lunch, but no beverage whatsoever) : 90 NKR.

TOUR 'C'

Thursday 25 April
Coach Departure : 1230 hours
Conducted Tour

Lunch at the Najaden Restaurant, Bygdøy.

After lunch the participants will pay visits to the Kon Tiki Museum which was built to house the balsawood raft, Kon Tiki on which Thor Heyerdahl and his five companions drifted 8000 km. (5000 miles) across the Pacific from Callao in Peru to the island of Raroia in Polynesia, to substantiate Heyerdahl's theory that people from the prehistoric civilizations of South America could have settled Polynesia by sailing across to the islands on balsawood rafts - a feat many ethnologists had previously dismissed as impossible.

Then to the Fram Museum which houses the polar exploration vessel Fram, built for Fridtjof Nansen's expedition of 1893-96 to the North Pole.

And at last, on our way back to town we will make a stop at the Viking Ships Museum to have a look at these remarkable relics of the Viking Age.
The ships exposed are all excavated from barrows on the shores of the Oslo fjord.

Starting Point : Ingeniørenes Hus, Kronprinsens Gate 17

Duration : 6 hours

Preliminary Price (including lunch but no beverage whatsoever) : 95 NKR.

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