

Educational Wall-Map System of the Danish Geodetic Institute¹⁾.

By Axel Schou.

The *Wall-Map-Section of The Danish Geodetic Institute* was established in 1946 on the initiative of professor, dr. *N. E. Nørlund*, director of *The Danish Geodetic Institute*, and professor, dr. *Niels Nielsen*, head of the *Geographical Institute of the University* in Copenhagen for the purpose of producing wall-maps suitable for use in modern geography-teaching. A cooperation of the two institutions mentioned was started under the leadership of the author. Besides being geographical editor he even took care of the pedagogical regard by contacting modern teaching of geography, especially the use of wall-maps in education.

The production comprises 3 series: 1. *Denmark-Maps*, 2. *World-Maps*, 3. *Continent-Maps*.

The drawing, reproduction and printing as well as the distribution has been carried out by the staff of *The Danish Geodetic Institute*, Copenhagen.

1. Denmark-Maps.

After the years of German occupation there was in Denmark a need for wall-maps of Denmark suited for a type of teaching being characterized by modern geographical points of view:

I. Comparative cartographical method used for solving problems concerning causal relations.

II. Demonstration of distribution patterns of different kinds: relief features, geomorphological elements, economic-geographical conditions a. s. o. on special maps.

¹⁾ Revised edition of a lecture given by the author in the cartographical section of the 17th International Geographical Congress, Washington, D.C., august 1952.

III. Large-scale maps of typical landscapes.

IV. Combination of maps and blockdiagrams for the purpose of showing causality between geological structure, relief and human utilization of environment.

An intense research work concerning Danish geographical problems, physical and cultural, had been carried out during the second world war under the leadership of *Niels Nielsen* in order to compile an atlas of Denmark. The first volume of this *Atlas of Denmark: The Landscapes*,²⁾ was published in 1949. The scientific results of these new geographical investigations were combined with the existing large amount of results of the geological research work executed by *The Geological Survey of Denmark* (Danmarks Geologiske Undersøgelse) and the mapping and charting results of *The Danish Geodetic Institute* (Geodætisk Institut) and *The Danish Chart Institution* (Det Kongelige Danske Søkortarkiv). The wall-maps represent a pedagogical utilization of this scientific work. Atlas-volume, text & figure-volume and the wall-maps form together a geographical educational system.

The Denmark-maps have been produced as a service to Danish geographical teaching. The point of view has been this: The Denmark-map is a practical remedy to transfer cultural tradition from one generation to the following one. In that respect the wall-map has a special mission. It is very impressive and it is seen by young people in just that stage of life in which basic impressions are founded. Lots of associative thoughts are attached to the map. Every pupil, lazy or clever, leaves school with a conception, indistinct or clear, of the map-configuration of his/her own country. It is necessary to make the national map so large and esthetically sympathetic as ever possible. The educational wall map is a cultural poster; and the map is a basic element for geographical understanding, and for lots of other sorts of understanding too.

The Denmark-maps form a cartographical trilogy consisting of:

- A. Physical Map.
- B. Geomorphological Map.
- C. Economic-Geographical Map.

²⁾ *Nielsen, Niels*: Atlas of Denmark, Vol. I. *Schou, Axel*: The Landscapes. Published by The Royal Danish Geographical Society (Det Kongelige Danske Geografiske Selskab). Copenhagen (H. Hagerup) 1949.

³⁾ Concerning the physical map essential preliminary work has been carried out of the *Geodetic Institute Topographical Department* before the establishment of the *Wall-Map-Section*.

A.³) Physical Map of Denmark.

Scale 1:250,000. 163×201 cm. 4 sheets (fig. 1).

In four hypsometric tints for water and seven for land this map in survey form gives an *exact representation of the physical features* of Denmark and the bottom relief of the surrounding seas. The eleven grades of the colour scale are constructed from the colours blue and yellow and their various blends. The surface features are shown in a very differentiated manner, the contours being only simplified very little in order to make it possible to show the characteristic relief pattern even of small regions. The map intends to give every teacher in Denmark an opportunity to use it, not only as a survey map, but as a special map for regional study too. To the foreigner it gives an illustration of a country built up of typical moraine landscapes, outwash and coastalplains.

Actual contour lines serve as junctions of the layer tints. These map layer intervals have been selected so as to show up major features of Denmark to the best advantage; not accidental level regions, but characteristic ones, conformable to geomorphological units. The 10 m-contour, for instance, has been chosen because it limits the coastal plains formed since the stone age. It has to be noted that the contour line: 10 m over sea-level not represents the shorelines of the stone age sea, these are to be found at varied levels in different parts of Denmark, but the 10 m-contour in most places lies in the cliffs of the stone age sea, thus forming a practical limit on a map in the scale used for this wall-map.

Layer intervals: depths 6—10—30 metres, heights 0—10—40—80—120—150 metres. Physical symbols: deciduous forest, coniferous forest, heather, dune, meadow, bog, marshland, tidal-area, cliff.

Cultural features shown on this map are: towns indicated by red colour, covering the built-up areas of the boroughs. The size of towns is indicated by different lettering. Circle-symbols of different kind for smaller towns and a selected number of villages. Railway and through-road, port, coast protection work, embanked area, dike, canal, lighthouse and lightvessel, brick-manufactory.

Insert maps: The Faroe Islands, scale 1:250,000, Greenland, scale 1:4,500,000, Copenhagen, scale 1:100,000 and the administrative divisions of Denmark. The Faroe terrain is reproduced in five colour graduations in the international colour scale for levels: 200—400—600—800 metres. Greenland is drawn with symbols for ice-free land and ice-cap. The colours of the Copenhagen map show four phases in the growth of the town.

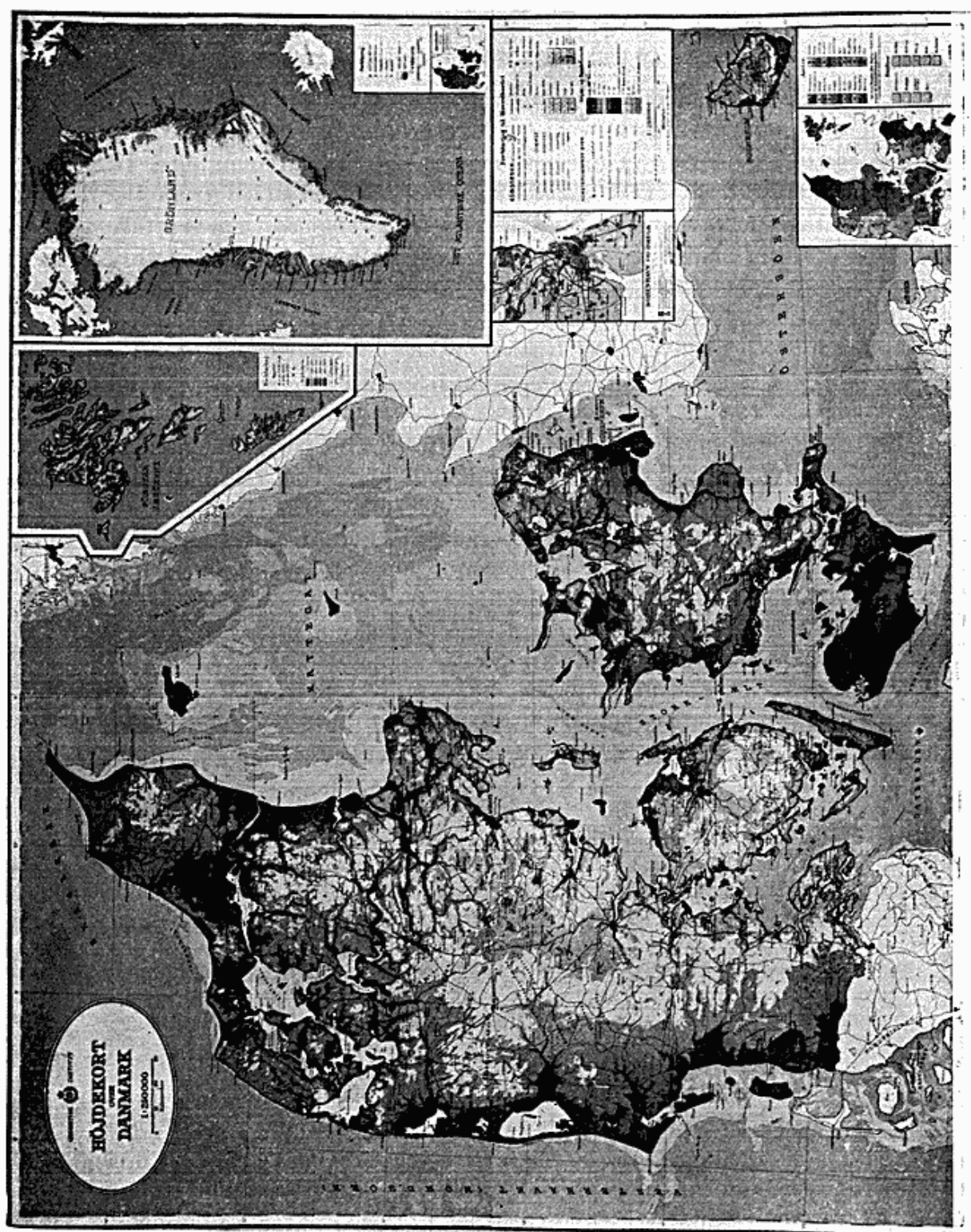


Fig. 1 (1, A.). Physical Map of Denmark (*Højdekort over Danmark*).
Scale 1:250,000. Size 163×201 cm, 4 sheets.

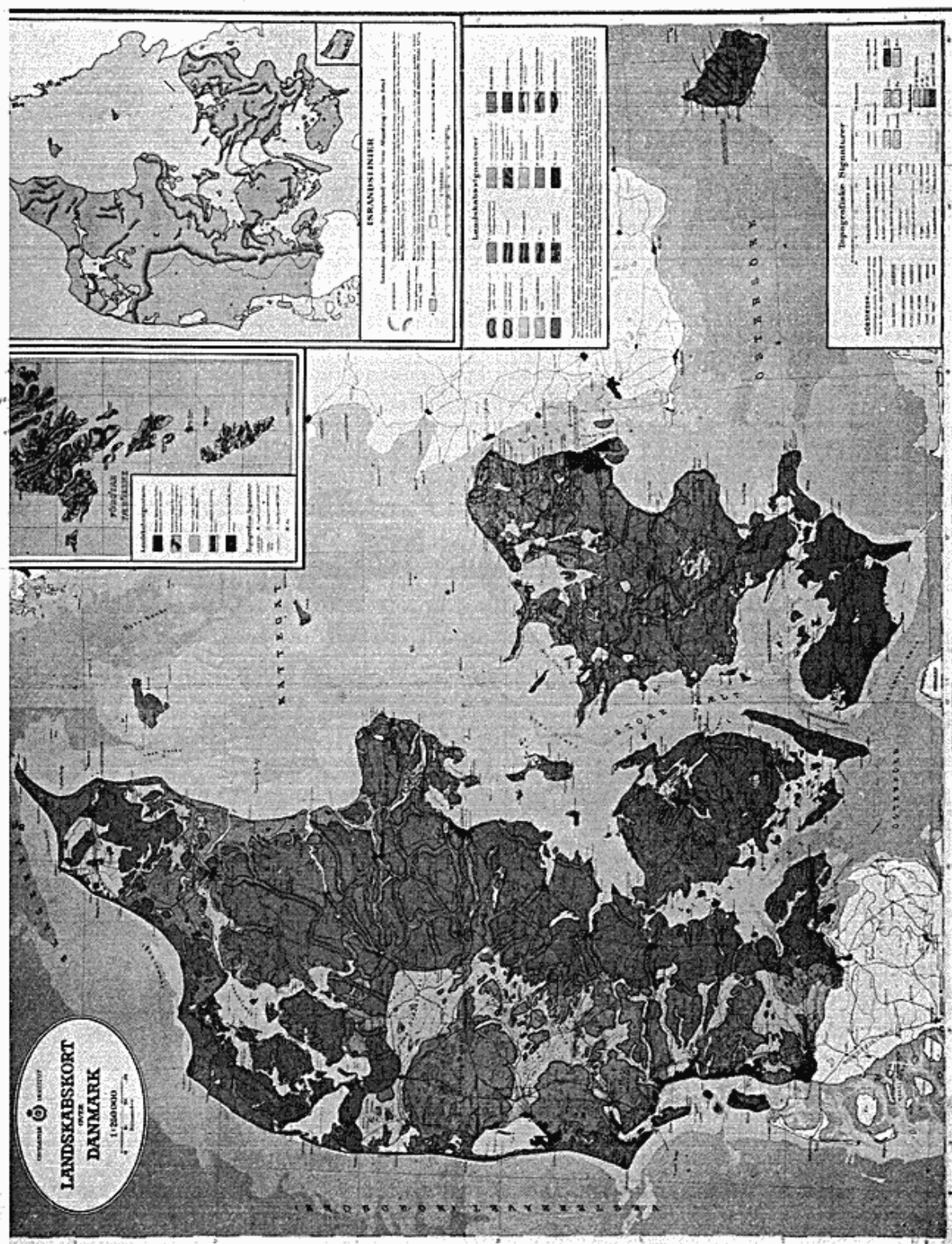


Fig. 2 (1, B). *Geomorphological Map of Denmark (Landskabskort over Danmark).*

Scale 1:250,000. Size 163×201 cm, 4 sheets.

B. Geomorphological Map of Denmark.

Scale 1:250,000. 163×201 cm. 4 sheets (fig. 2).

This map shows the basic geomorphological landscape pattern by means of 20 colour symbols:

1) Old moraine landscape, preponderantly clayey soil. 2) Old moraine landscape, preponderantly sandy soil. 3) Outwash plain. 4) Outwash plain with dead-ice depressions. 5) Young moraine landscape preponderantly clayey soil. 6) Young moraine landscape, preponderantly sandy soil. 7) Tunnel valley. 8) Melt-water valley. 9) Esker. 10) Ice lake landscape with flat-topped hills. 11) Large ice-lake flats and similar former lake bottoms. 12) Primitive-rock landscape with joint valleys and rocky coasts. (Bornholm). 13) Late glacial raised sea floor. 14) Marine foreland built up after the stone age. 15) Marsh plain 16) Dune landscape. 17) Reclaimed area. 18) Denmark's highest late-glacial shoreline. 19) Highest shoreline of the stone-age seas in North Denmark. 20) High cliff.

The Faroe Island-basaltlandscapes are explained by means of colour symbols indicating plateau plains and glacial eroded valleys. The botn's (cwm) or cirque valleys are shown by means of shading in crayon manner.

This map is constructed to give the *explanation concerning landscape development*. It intends too, however, to demonstrate a division of the country into regions which are very different concerning habitation and cultivation, such as outwash plains and young moraine landscapes with clayey soil, — a division of greatest importance for geographical reasoning. At the same time the map has a topographical content corresponding to that of the physical map, so that the dependence of economic-geographical features on the forms of landscape can be demonstrated, for instance the fundamental reasons for the course of the railways in the meltwater and tunnel valleys of East-Jutland.

C. Economic-Geographical Map of Denmark.

Scale 1:300,000. 170×120 cm. 2 sheets (fig. 3).

On this map the principal features illustrated are the *economic-geographical distributions of the population*; the human Denmark; it is the *utilization and transformation of the natural conditions* that are visualized.

By means of area symbols in the colour scale from pale yellow to orange it shows the distribution of the cultivated land and the division of the country into agricultural provinces mainly after Aa. H. Kampp.⁴⁾ The forests appear as dark or pale green areas,

⁴⁾ Kampp, Aa. H.: A Division of Denmark into Agricultural Districts. Geografisk Tidsskrift, bd. 47, 1944—45.

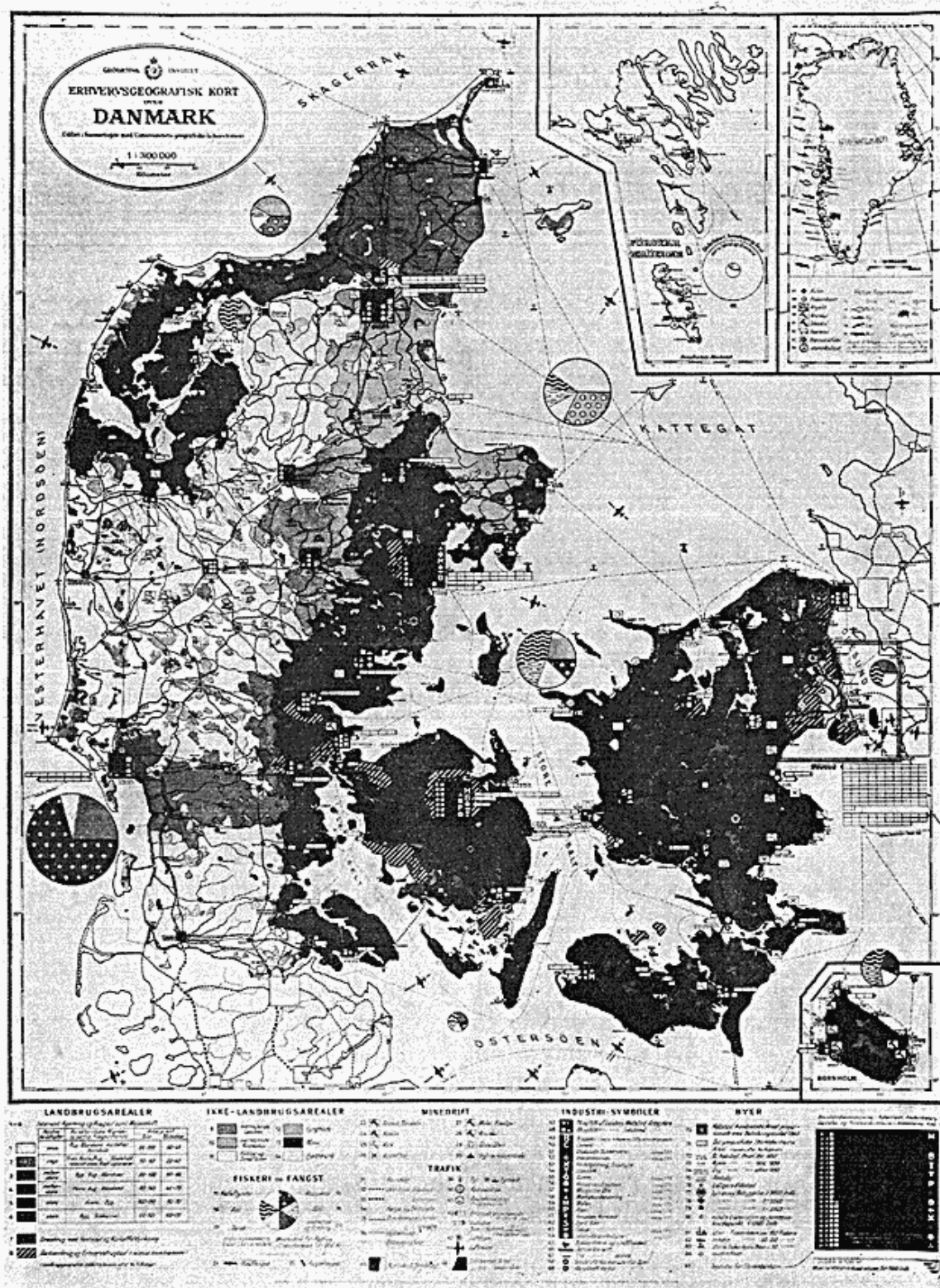


Fig. 3 (1, C). *Economic-Geographical Map of Denmark (Erhvervsgeografisk Kort over Danmark).*

Scale 1:300,000. Size 170×120 cm, 2 sheets.

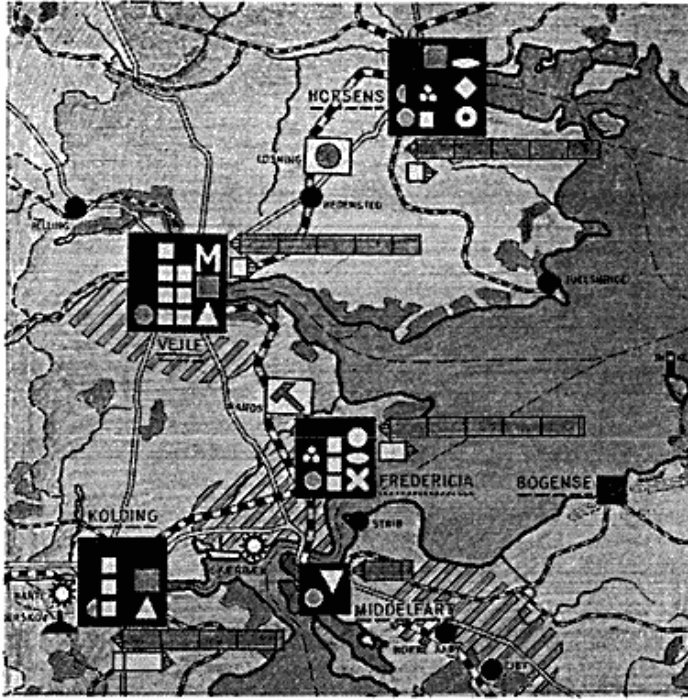


Fig. 4 (1, C). Section (SE-Jutland) of Economic-Geographical Map of Denmark showing in details the town symbols, industrial symbols, arrows indicating goods loaded or discharged etc. (cfr. list of symbols p. 263).

according to whether conifer or foliferous trees dominate. Moors, dunes and bogs are indicated by area symbols whose colours associatively lead the mind to these resistant parts of the natural landscape.

Mining and quarrying localities are marked by ten different colour symbols. The fisheries are illustrated partly by symbols for the fishing ports, differentiated according to importance, partly by graphic figures (pie-diagrams) in the adjacent waters to represent the quantities and qualities of the catches landed.

The towns are shown by means of symbols which, as regards the boroughs, directly indicate the size, the symbol area being proportionate to the number of inhabitants at the last census. Railway town communities are registered by means of three symbols. A number of symbols for important branches of industry, 20 in all, are incorporated directly in the borough symbols, thus facilitating an orientation as to the outstanding economic-geographical features. Large establishments such as shipyards and sugar refineries have their own symbols. The capacity of the borough ports can be judged from symbols inserted to indicate the quantities of goods discharged and loaded. A selection of the smaller ports is also included (fig. 4).

Matters relating to traffic geography can be treated on the basis of the symbol-indications for single and double-track railways, ship

and ferry routes, airports, important lighthouses and lightvessels, main roads, etc.

A map of the Faroe Islands is inserted on the same scale, and a map of Greenland on a scale of 1:10,000,000 and provided with special symbols giving a rough idea of the exceptional occupational life in this arctic part of The Kingdom of Denmark.

The symbols are mentioned in what follows because they give a summary of the economic-geographical structure of Denmark:

1—8. *Agricultural Areas.*

Intensive field and animal husbandry, and dairyfarming.

	relative ha-yield	characteristic crops and type of animal husbandry.	No. per sq. km	
			pigs	dairy cows
1)	small	rye, meslin, potatoes, sheep	60—100	30—40
2)	slight	grass, oats, rye, bullocks relatively small root-crops	50—80	20—40
3)	medium	barley, rye, meslin	80—100	50—60
4)	medium	oats, rye, meslin	80—140	40—70
5)	large	wheat, barley	100—150	50—70
6)	large	barley, sugar-beet	60—120	40—70

7) pasture farming with sheep-raising and potato-growing, 8) market-gardening and fruit growing (relatively prominent).

9—14. *Non-Agricultural Areas.*

9) mainly deciduous forest, 10) mainly coniferous forest, 11) dunes and sandy flats, 12) heather moor, 13) bog, 14) fell-field.

15—22. *Fisheries and Fowling.*

15) halibut, 16) eel, 17) cod, 18) plaice, 19) herring, 20) other fishes and crustacea, 21) whaling, 22) fowling.

23—30. *Mining and Quarrying.*

23) granite, sandstone, 24) china clay, 25) limestone, 26) flint pebbles, 27) moler, kiselguhr, 28) lignite, 29) gravel, stone, 30) brickworks area.

31—46. *Traffic.*

31) main road, 32) railway, single track, 33) railway, double track, 34) ferry and ship route, 35) train ferry, 36) road embankment, 37) ebb-track and ford, 38) lighthouse, 39) lightvessel, 40) wireless station, 41) wireless station (broadcasting), 42) goods discharged (1938) (from abroad: red), goods loaded (to abroad: red) 1 cm = 50,000 t. 43) airport, 44) air route, 45) groined coast, 46) reclaimed area.

47—89. *Industrial Symbols.*

47) 10% and $1\frac{1}{2}\%$ of Denmark's metal-ind. workers,
 48) 10% and $1\frac{1}{2}\%$ of Denmark's textile-ind. workers,
 49) brewing, no. of workers $\geq 2\%$ of industrial group,
 50) cement,

- 51) chocolate, confectionery, no. of workers $\geq 3\%$ of industrial group,
 52) canned fish » » » $\geq 1\%$ » » »
 53) phosphate fertilizer, sulphuric acid,
 54) glass-making,
 55) rubber » » » $\geq 1\%$ » » »
 56) canned fruit, fruit-wine » » » $\geq 2\%$ » » »
 57) margarine, oil extraction » » » $\geq 1\%$ » » »
 58) milk condensing » » » $\geq 2\%$ » » »
 59) flour milling » » » $\geq 3\%$ » » »
 60) paper » » » $\geq 2\%$ » » »
 61) porcelain, earthenware » » » $\geq 2\%$ » » »
 62) distilling, yeast,
 63) tobacco » » » $\geq 1\%$ » » »
 64) large bacon factory » » » $\geq 2\%$ » » »
 65) sugar refinery, 66) iron—shipyard, 67) wood—shipyard, large, 68)
 water-power station, rural, 69) steam-power station, rural.

70—86. Towns.

- 70) borough, area of square proportionate to pop. 1950,
 71) area of Greater Copenhagen (mainly after Aage Aagesen⁵⁾),
 72) ancient borough, chartered before 1650,
 73) recent » » 1650 to 1850,
 74) young » » after 1850,
 75) county town,
 76) former borough,
 77) railway town communities >3000 inhab.,
 78) » » » 2—3000 »
 79) » » » 1—2000 »
 80) small terminal and railway junction with <1000 inhab.,
 81) large fishing port ≥ 150 fishermen,
 82) small » » 50—150 »
 83) large fishing village without harbour ca. 50 inhab.,
 84) small port,
 85) symbol: Greater Copenhagen,

86. The Faroe Islands.

- 86) large circular plane: ship-fisheries, chiefly cod, mostly near Iceland and Greenland, small circular plane: boat fisheries in the Feröean seas.

87—101. Greenland.

- 87) colony, 88) fishing port, 89) cryolite, 90) lignite, 91) coal, 92) sheep-raising, 93) canning factory, 94) wireless station.

Important hunting and fishing regions:

- 95) cod, 96) halibut, 97) shark, 98) seal, 99) whale, 100) polar-bear, 101) caribou. Foxes and ptarmigans trapped everywhere. Fowling: guillemot, eider-duck, black guillemot and gull, as well as fishing for: brooktrout, angmassaet, sea-scorpion and sea-wolf are general everywhere.

⁵⁾ Aagesen, Aage: Om Københavns geografiske Afgrænsning, Geografisk Tidsskrift, bd. 45, 1942.

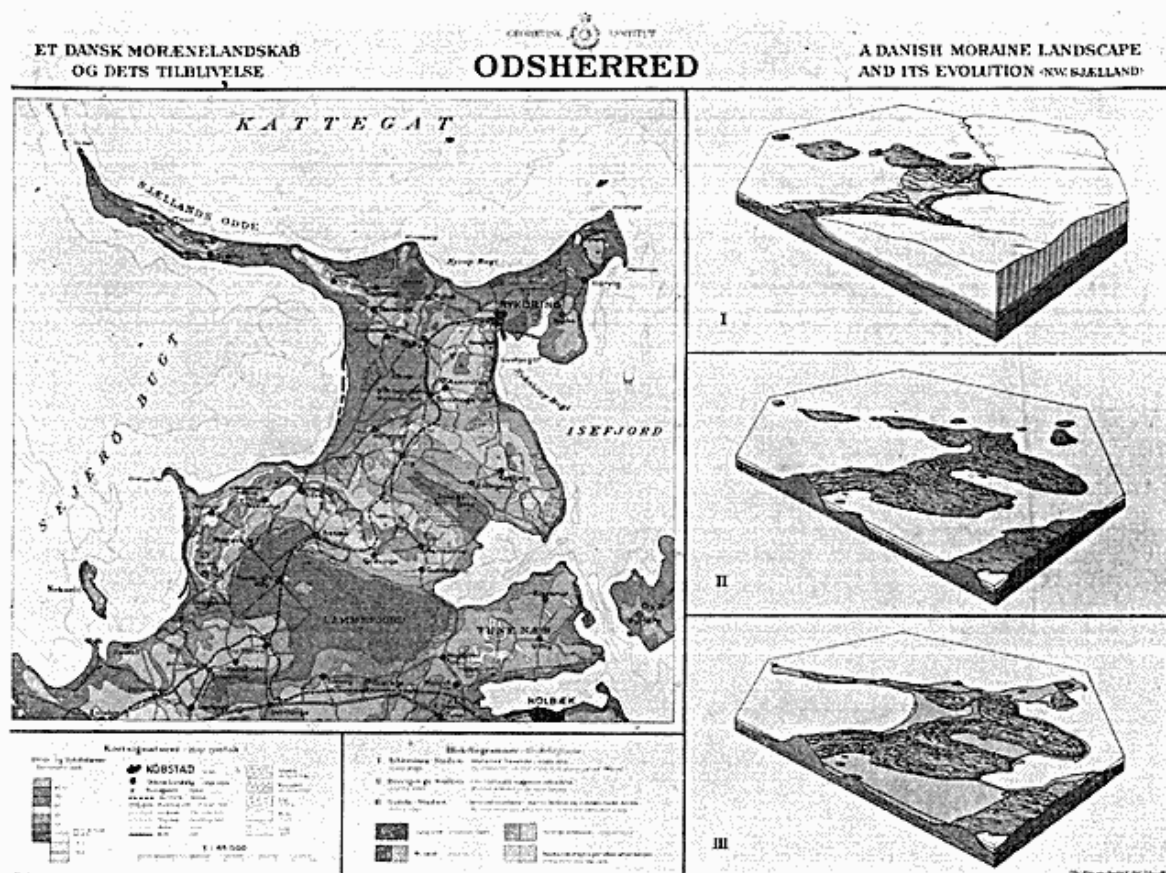


Fig. 5 (1, D). *Odsherred (NW-Zealand), a Danish moraine landscape and its evolution.* Map scale 1:65,000. Size 80×107.5 cm.

The Denmark-Map System also comprises series of wall-maps showing *typical Danish landscapes*, represented by *hypsometric maps*, scale 1:65,000 and *blockdiagrams*:

D. *Odsherred (NW-Zealand), a Danish moraine landscape and its evolution.*

This wall-table shows by means of hypsometric map and 3 morphogenetic blockdiagrams typical evolutionary stages in the development of a landscape formed by glacial accumulation, upheaval of land, marine abrasion, sedimentation and cultural modification (embankment, canalization, coastprotection, agricultural influences). In Odsherred the relief as well as the shoreline clearly visualize the mode of formation.

Just as the valley of the Colorado River and Niagara are used internationally in teaching geography as types of a canyon and a waterfall, Odsherred could be employed as a standard example of a moraine landscape. With this in view this map, like the following ones, are furnished with text in both Danish and English (fig. 5).

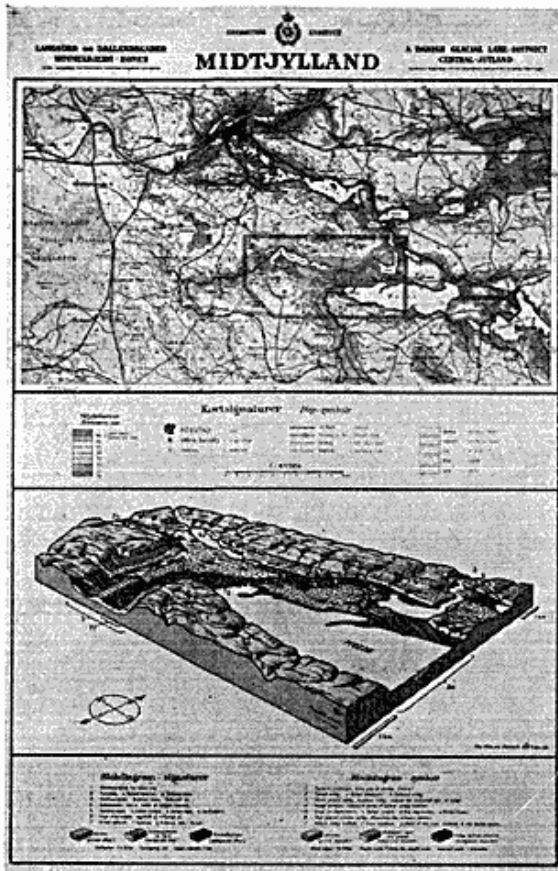


Fig. 6 (1, E). *Midtjylland (Central-Jutland), a glacial lake district.*
Map scale 1:65,000. Size 119×81 cm.

E. Midtjylland (Central-Jutland), a glacial lake district (fig 6).

Here the valleys, formed either subglacially by melting water under the ice cap or by extramarginal river erosion, are demonstrated. Typical long-lakes are conditioned by depressions formed by dead ice in the valleybottoms.

F. Færøkyster (The Faroe Islands), a basalt landscape and its coastal types (fig. 7).

The possibilities of the blockdiagram to show the correlation between surface relief and geological structure are used to demonstrate the influence of basalt- and tuf-layers on the cliff sculpture.

The upper blockdiagram shows an ideal combination of ocean cliffcoast structural elements: wave-cut cave, marine arch, stack, skerry etc.

The lower blockdiagram shows a Faroe fiord coast and cirque formed by glacial erosion in ice-age.

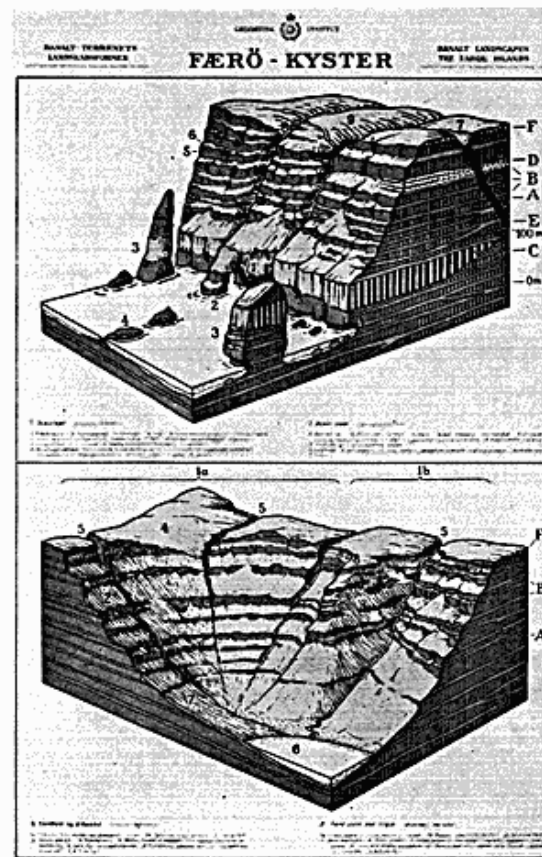


Fig. 7 (1, F). *Færøkyster (The Faroe Islands) a basalt landscape and its coasttypes*
Map scale 1:65,000. Size 119×81 cm.

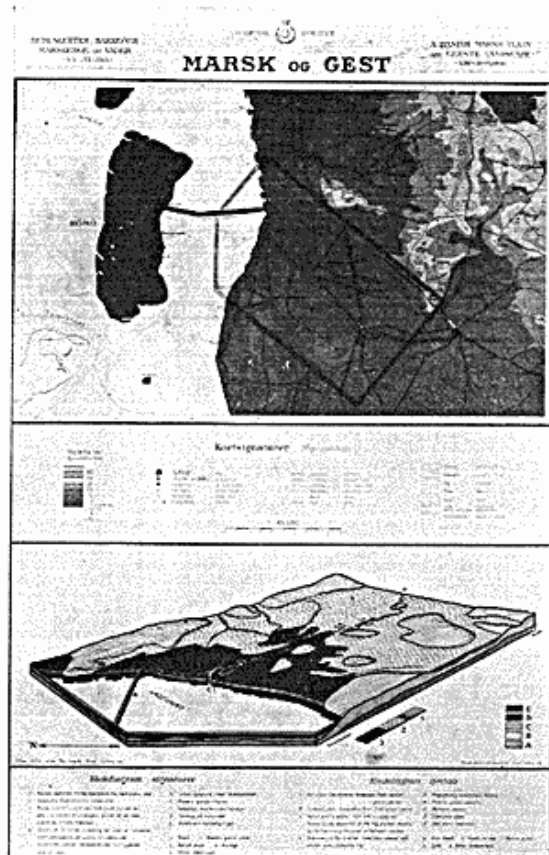


Fig. 8 (1, G). *Marsk & Gest (SW-Jutland), marsh plains and glacial landscape.*
Map scale 1:65,000. Size 119×81 cm.

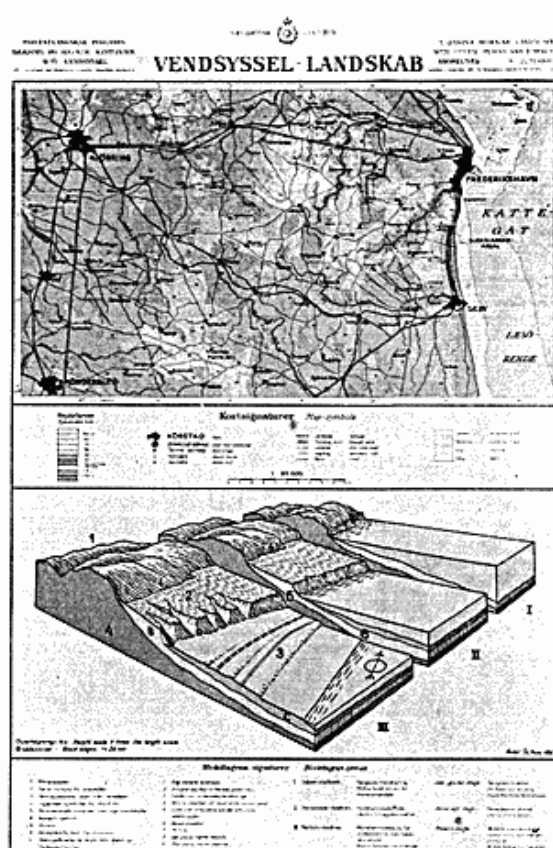


Fig. 9 (1, H). *Vendsyssel (N-Jutland), moraine landscape and coastal plains, at different levels.*
Map scale 1:65,000. Size 119×81 cm.

G. Marsk & Gest (SW-Jutland), marsh plains and glacial landscape (fig. 8).

This table demonstrates the typical series of landscapes in the marsh-areas around the tidal flat-coasts of The Northsea, here shown in its Danish modification.

H. Vendsyssel (N-Jutland), moraine landscape and coastal plains, at different levels (fig. 9).

3 morphogenetic blockdiagrams represent different stages in the level-changes characterizing this part of Denmark: Late-glacial stage, stoneage stage and present stage.

I. Stevns (E-Zealand), moraine flat limited by chalk cliffs; shorelines of erosion and accumulation.

The blockdiagram shows a cliff formed in Senonian and Danium limestone, with top players of moraine. Under construction (1953).

2. World-Maps.

The projection used for the world-maps is Eckert's. It has been chosen on account of its equal area qualifications, and owing to the fact that distances from the equator or the poles are clearly shown because all parallels are drawn as lines parallel to the equator. Diagrams show the systematic distortion of north to south and east to west distances in different parts of the maps. Scale 1:25,000,000, i. e. the radius of the generating globe is 1:25,000,000 of the earth's radius. Size: 110×157 cm. 2 sheets.

The world-map series contains maps showing *distributional patterns of general geographical topics*. In all world-maps towns of million or more inhabitants are indicated by dot symbols. Legends are printed in English, French and Danish.

1. Climatic and Vegetation Zones (fig. 10).

This map is compiled by *Johs. Reumert* and the author. The climatic system used is that of *Martin Vahl*⁶⁻⁷), late professor in geography in the University of Copenhagen. *Vahl* used the distribution of natural vegetation as indicator for zonal frontiers. The inventor of the system did never compile a world map showing the zones, here it is done by his pupils. Descriptions of the *Vahl*-system are given by *Johs. Humlum*,⁷⁾ and *Johs. Reumert*,⁸⁾.

Vahl used the spectral colours for vegetation zones in his textbooks. The map symbols are:

- Tropical zone (rain forest, savanna formations): red colours.
- Subtropical zones (savanna formations, maqui and mediterranean forest, grass steppe): brown colours.
- Temperate zones (coniferous and magellanic forest, rain forest, grass steppe): green colours.
- Polar zones (tundra, high-mountain regions and ice cap): blue colour.
- dry desert: yellow in all zones.
- shrub steppe: yellow with dots in zone colour.
- zone frontiers: black lines.

⁶⁾ *Vahl, Martin*: Zones et biochores géographiques. Oversigt over Det Kongelige Danske Videnskabernes Selskabs Forhandlinger, Nr. 4. København 1911.

⁷⁾ *Vahl, Martin*, and *Humlum, Johannes*: *Vahl's Climatic Zones and Biochores. A Description and a Calculation of their Areas, together with an Analysis of their Population and of their Grain Production.*

Acta Jutlandica, Aarsskrift for Aarhus Universitet XXI, 2 (N. 6), Aarhus 1949.

⁸⁾ *Reumert, Johannes*: *Vahl's Climate Divisions. An Explanation with a Postscript.* Geografisk Tidsskrift, bd. 48, 1946—47.

⁹⁾ *Reumert, Johannes*: Vægkort over klima- og plantebælter. Verdenskort til skolebrug. Geodætisk Instituts kortbeskrivelse, København 1949.

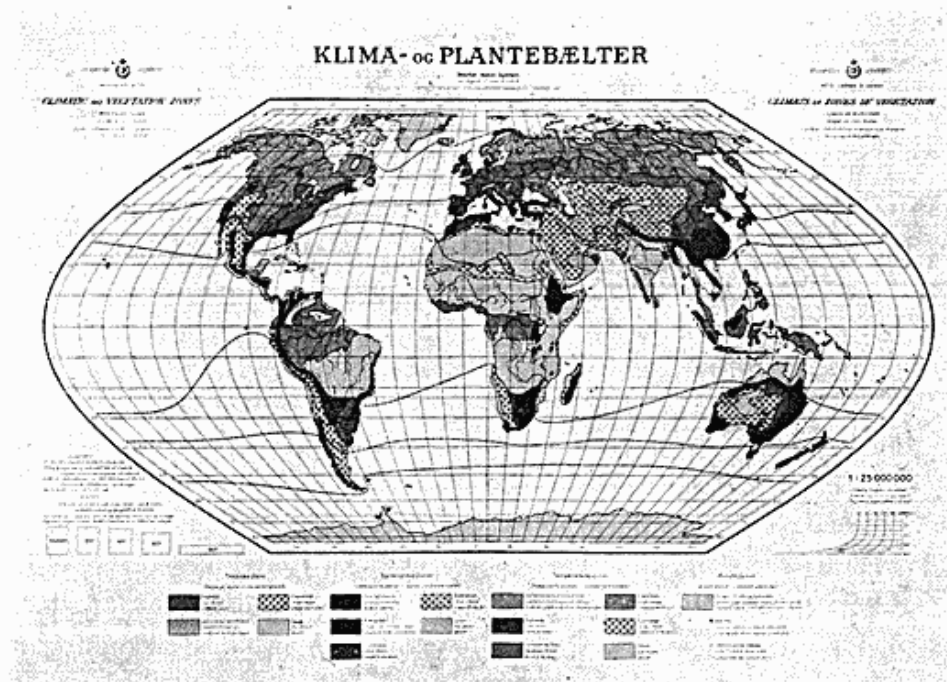


Fig. 10 (2, 1). *Climatic and Vegetation Zones (Klima- og Plantebælter).*
Scale 1:25,000,000. Size 110×157 cm, 2 sheets.

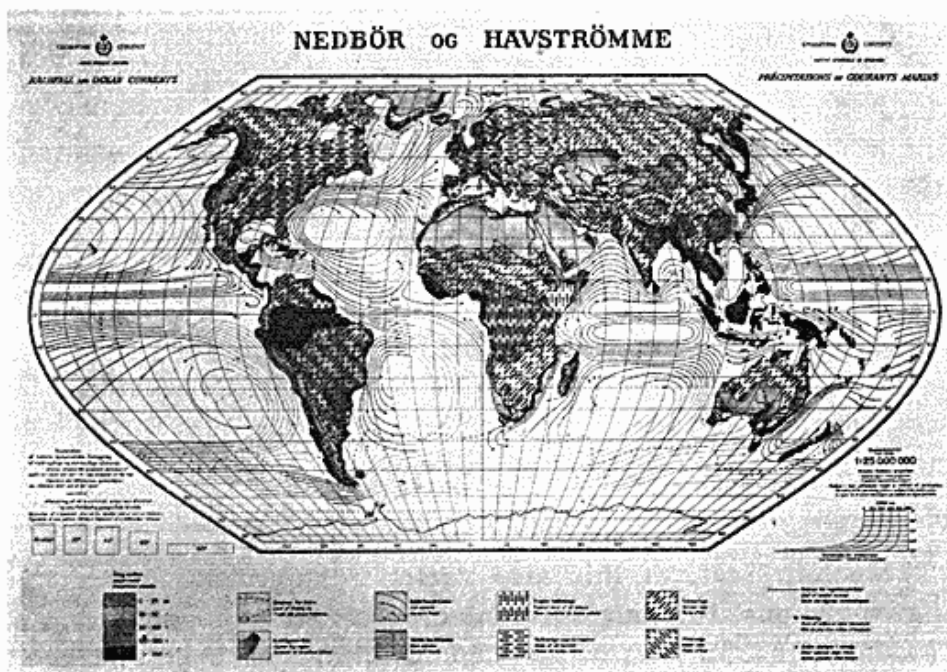


Fig. 11 (2, 2). *Rainfall and Ocean Currents (Nedbør og Havstrømme).*
Scale 1:25,000,000. Size 110×157 cm, 2 sheets.

A description of the map is published by Johs. Reumert,⁹⁾ In this publication the map is reproduced in colours (scale 1:125,000,000).

2. Rainfall and Ocean Currents (fig. 11).

The pattern of annual rainfall is shown by means of 5 colours: yellow for arid zones, 3 shades of blue, and purple for extreme humid areas. The rainfall regimes are indicated by a black-printed block-pattern: Tropical rains at all seasons. Summer rains. Winter rains. Rains at all seasons outside the tropical zone. Cold currents are shown by blue arrows, warm currents by red arrows. Further the map shows the distribution of coastal fog regions and the limits of floating ice.

3. Political World (fig. 12).

The map consists of a world map in the usual Eckert-projection and two supplementary maps of The Arctic-Regions and The Antarctic-Regions. These maps are constructed in equal area polar projection. The scale is the same as used for the main map. This arrangement has been established because the polar regions are the most distorted ones on the main map. In air-age geographical teaching the polar projections are of the greatest importance, especially when polar air routes are to be demonstrated.

The states are shown by area-colours. In large states, representing a union of states, the limits of the part-states are shown (USA, USSR, Brazil, China, Commonwealth of Australia). Besides towns of million or more inhabitants, towns of half-million inhabitants and significant smaller towns (ports, administration-centers, airports) are represented.

4. Races of Mankind.

By means of 32 colour symbols the present day distribution of races is shown. A simplification of the distribution pattern has been executed for educational purpose and on account of the wall-map style. (Under construction 1953).

5. Distribution of Population.

The colour scale of this map varies from yellow, for thin populated regions, through different orange and red shades to dark brown for the most crowded agglomerations of population. The map intends to demonstrate the distributional pattern directly by means of intensity of colouring. (Under construction 1953).

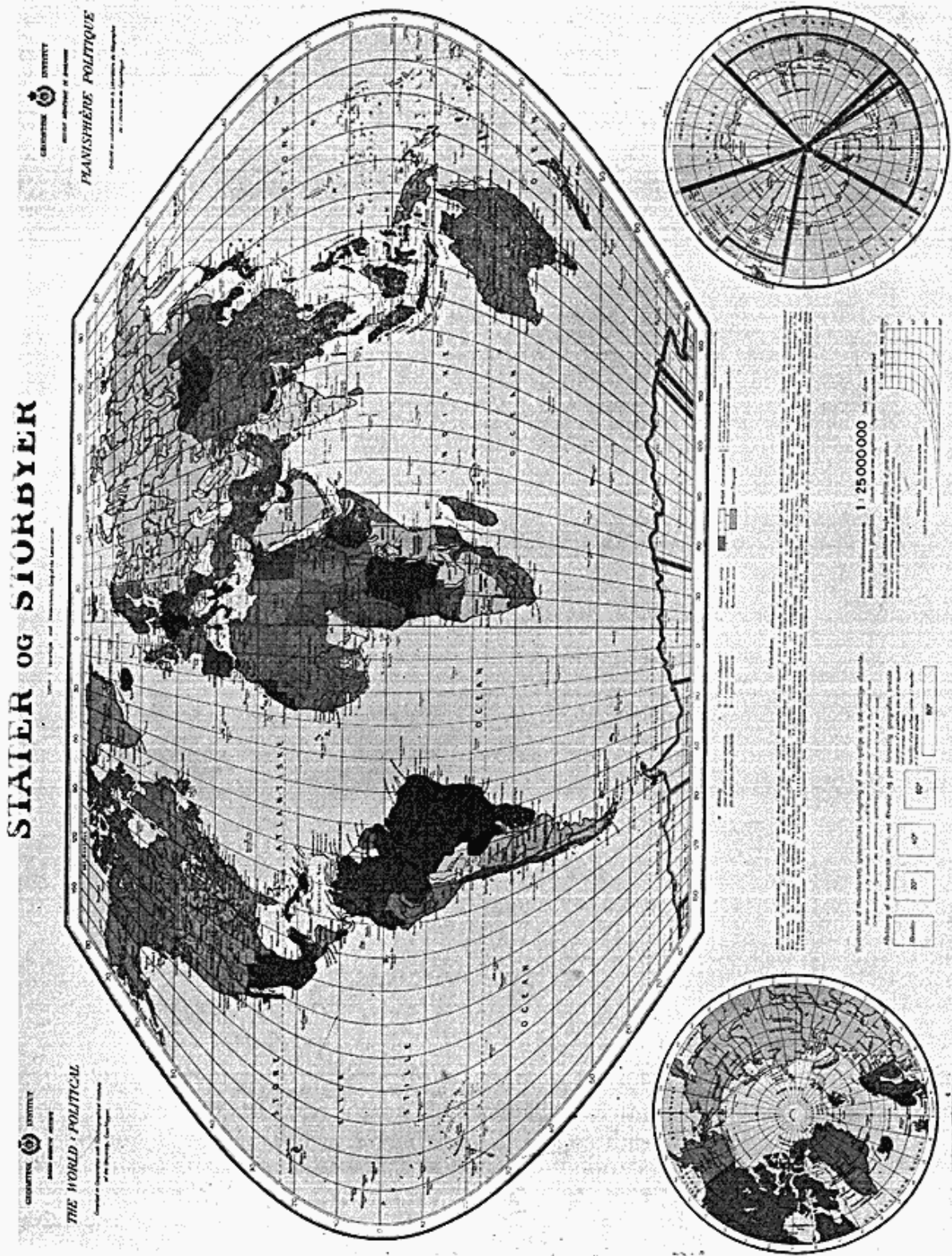


Fig. 12 (2, 3). Political World (Stater og Storbyer).
Scale 1:25,000,000. Size 110×157 cm, 2 sheets.



Fig. 13 (3 a). Asia and Europe. Projection: Lambert's equal area.
Scale 1:8,000,000. Size 162×173 cm, 4 sheets.

3. Continent-Maps.

The continent-maps are *physical maps with hypsometric tints combined with relief-shading* in crayon-manner. The shading is constructed as *plastic shading with oblique illumination* from northwest for optical-physiological reasons. The international colour scale for height-zones is used. The drawing of relief features is varied in a way that makes it possible to distinguish between alpine, fault and volcanic mountain-types. Other physical symbols are: lakes and rivers (constant and intermittent), swamp, marsh, saltpan, glacier, desert.

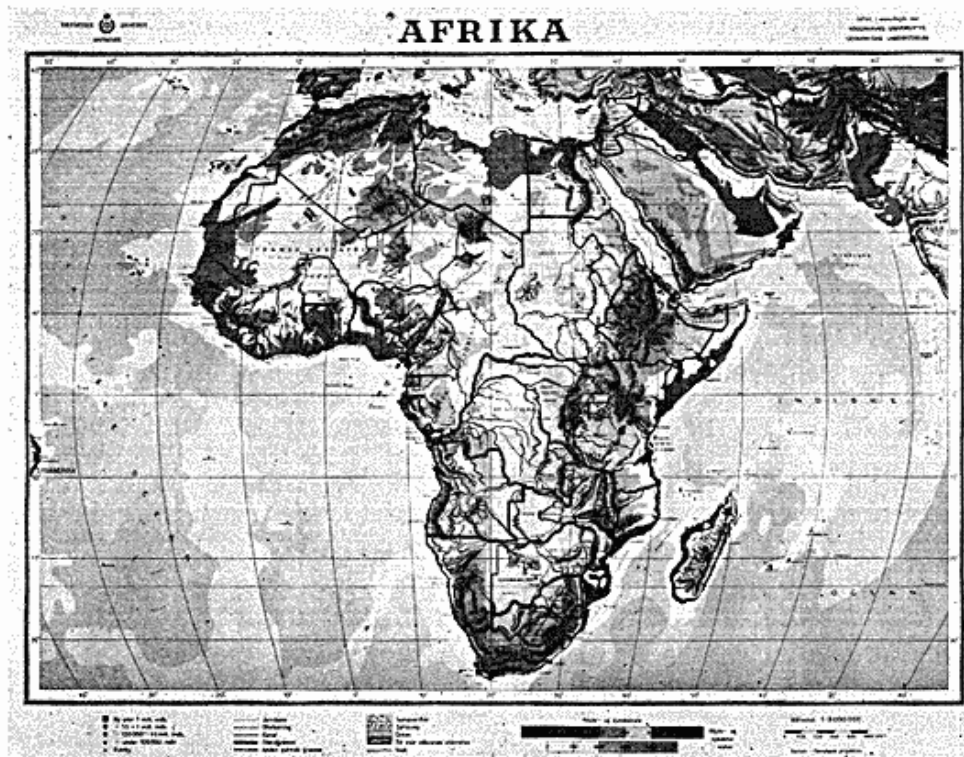


Fig. 14 (3, b). *Africa. Projection: Sanson-Flamsteed.*
Scale 1:8,000,000. Size 120×150 cm, 2 sheets.

These maps are constructed and drawn as physical maps. Man-made features, however, are particularly emphasized. Boundaries are shown as dotted lines with red colouring. City symbols indicate 4 categories of size (and ruin-towns). Important railways and, in some cases, important roads (The Burma Road) appear as black lines. Further, symbols for pipe-lines and canals could be mentioned. For the purpose of not disturbing the effect of the continuous map-plane the legend is arranged outside the frame of the map.

When planing the limitation of the area shown on these continent-maps, the intention has been to demonstrate the global placing of the continent in question. The Africa-map, for example, includes the eastcoast of Brazil, the westcoast of India and The Mediterranean Region. The Asia-map which really is a Eurasia-map, comprising Europe and The Mediterranean, is limited W. and E. by East-Africa and the northcoast of Australia. The northern frame passes through The North Pole. The Arctic Ocean is shown with hypsometric symbols as well as symbols indicating arctic pack ice and summer limite of floating ice, making it possible to

use the map when discussing possibilities of navigation along the northcoast of Asia.

The continent-map series includes the following maps. Every map is published in two editions, with lettering and without lettering:

- a. Asia, scale 1:8,000,000. Projection: Lambert's equal area. Size: 162×173 cm. 4 sheets (fig. 13).
- b. Africa, scale 1:8,000,000. Projection: Sanson-Flamsteed's equal area. Size: 120×150 cm. 2 sheets (fig. 14).

Under construction (1953):

- c. North-America, scale 1:8,000,000. 2 sheets.
- d. South-America, scale 1:8,000,000. 1 sheet.
- e. Europe, scale 1:3,000,000. 4 sheets.
- f. The Pacific Area. 2 sheets.

Layer intervals of Continent-Maps:

depths 200—2000—4000—6000—8000 metres,
heights 0—200—500—2000—4000—6000 metres.

The Educational Wall-Map System of the Danish Geodetic Institute is planned and constructed as a connected whole. The different maps are thought to be used together side by side giving the class-room not only a touch of comparative cartography but leaving the real mark of geographical reasoning on the teaching. The wall-maps are results of experiments, technical and pedagogical. In its entirety the system has been tested as proof prints in practical teaching, and numerous alterations of various kind are the results of discussion and debate.

The different series of wall-maps may be extended by addition of new maps, needed in educational practice. The series of typical Danish landscapes, for example, could be expanded to comprise Greenlandic landscapes too. Thus, the number of series is a settled thing, the number of maps in the different series, however, is not a finally closed one.

The wall-maps are the results of a complicated interaction of technical, pedagogical, scientific efforts. It is impossible to call attention to any single person: draughtsman, mathematician, printer, geographer, teacher or member of the editorial staff. The production of wall-maps is teamwork, — in the true sense of the word.

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