PORTS and HARBORS

JUNE 1965 Vol. 10 No.2

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Introducing The Crests of Ports

(Each Issue One Port)

THE PORT OF STOCKHOLM

STOCKHOLMS HAMN

Skeppsbro Harbour, Stockholm

PORTS and HARBORS

JUNE, 1965 Vol. 10, No. 2

PORTS AND HARBORS is quarterly published by the Central Secretariat of the International Association of Ports and Harbors as an official journal of the Association, to provide its members with information concerning port and harbor developments in the world.

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The Central Secretariat of the International Association of Ports and Harbors

Room 715-A, N.Y.K. Bldg.,

20, Marunouchi 2-chome, Chiyoda-ku, Tokyo, Japan

I.A.P.H. New Officers 1965-1967

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(Continued on reverse of back cover)

IAPH's Fourth Conference was held at Cafe Royal, London, with great success

By Gaku Matsumoto

Chief of the Central Secretariat

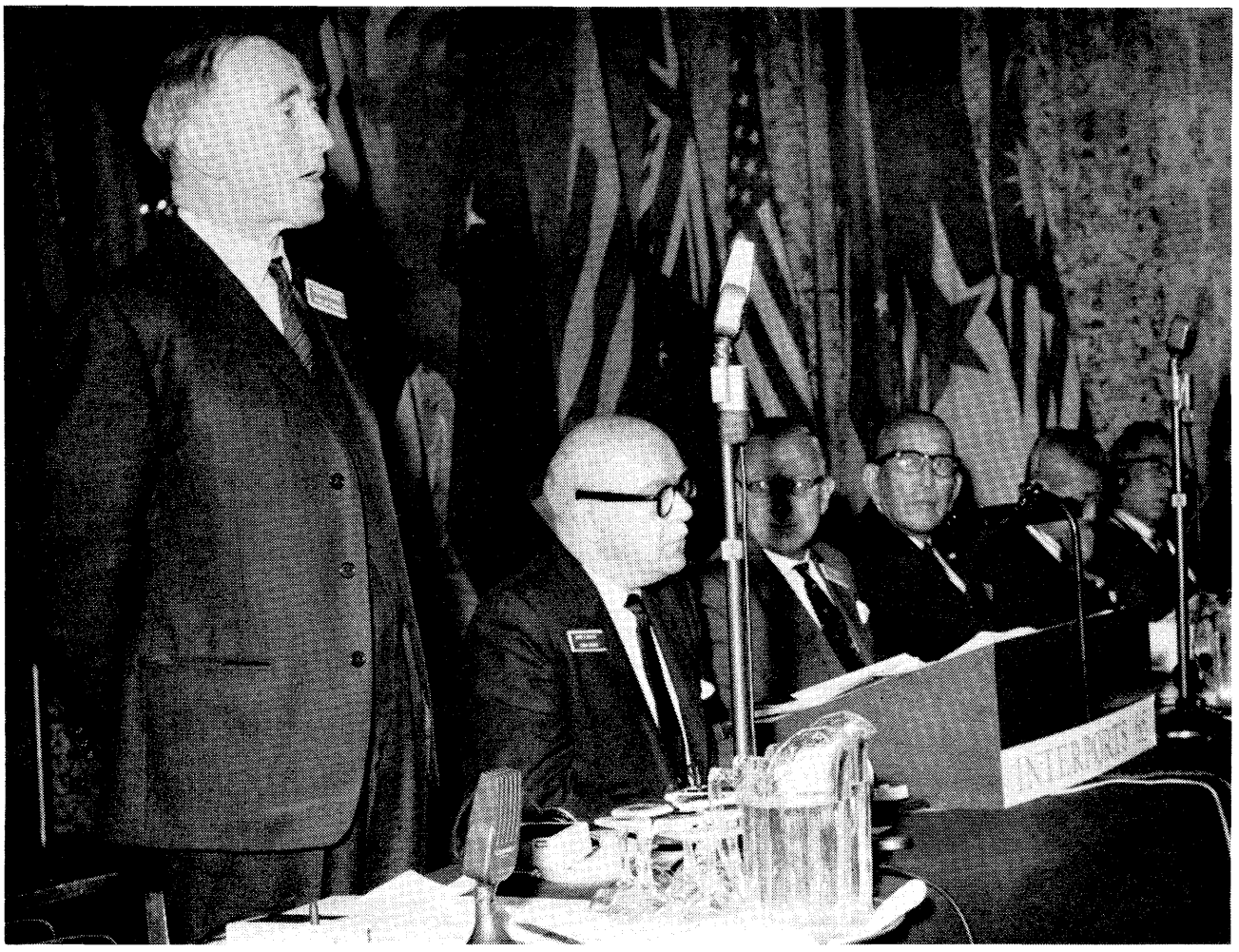
Meeting under the gavel of the President of the International Association of Ports and Harbors, Mr. John P. Davis, the port leaders of forty-three nations of the world spent four days from May 10 to May 14, 1965, chartering the constructive policy for furthering the aims and purposes of the Association, as over four hundred attendants participated in the Fourth Conference of the International Association of Ports and Harbors in London, England.

The great success achieved by this international congress through a series of meetings and discussions carried out so earnestly and diligently by all of the delegates and representatives, will be found in the minutes of proceedings, which will be published in the near future.

Besides many significant achievements in various practical problems and objectives, however, it must also be noted with emphasis that this international conference has implemented one of the objects and purposes of this Association—the promotion of international friendship and goodwill through the deepening of mutual understanding.

The Fourth Conference was invited to be held in London through the good offices of our U. K. Directors. Rt. Hon. Viscount Simon, Chairman of Port of London Authority as Conference Chairman, Mr. Dudley Perkins, General Man-

President, Mr. John P. Davis (Long Beach) at Opening Ceremony



Viscount Simon (London) speaking at Opening Ceremony

ager of Port of London Authority, and Sir Leslie Ford, ex-General Manager of Port of London Authority as Chairman of Organising Committee, all acting as hosts and under the patronage of H. R. H. The Prince Philip, Duke of Edinburgh.

Sir Leslie Ford opened his office at 15 North Audley Street, London W 1, since the early part of last year for the purpose and he and his staff spared no effort ably and efficiently engaging in the preparation, publicizing the meeting in close contact with the Central Secretariat in Tokyo for holding the Conference which proved a great success.

Board Meeting Decisions

The meeting of Board of Directors was held prior to the Conference as required by the By-Laws, President, Mr. John P. Davis, presiding.

Among many things discussed and considered were:—

Selection of Nominating Committee, Resolution and Bills Committee and Honorary Membership Committee.

Report by Chief of Central Secretariat on general affairs and finance.

Report by Chairmen of three Standing Committees.

Amendment of the Constitution.

Amendment of the By-Laws.

Selection of next Conference site.

Selection of new President and 1st and 2nd Vice-Presidents.

New Directors and Alternate Directors.

Establishment of Activation Committee in relation to the Resolution submitted by the Central Secretariats to assist the developing countries.

Establishment of Special Committee (Thinking Committee).

Extending appreciation to the Host.

Extending appreciation to those who contributed to the success of the Conference.

etc. etc.

Highlights of the Conference

On May 11, the curtain was raised and the 4th Conference was officially opened with due ceremonies under President, Mr. John P. Davis and Conference Chairman, Rt. Hon. Viscount Simon, followed by speeches of Rt. Hon. Tom Frazer, M. P., Minister of Transport and Sir Charles Norton, Rt. Worshipful Mayor of Westminster (London).

During the plenary sessions from May 11 to May 14, the important problems commonly faced by the port people of the world as the moment, which were placed on the agenda, were discussed and studied one after another, eagerly and enthusiastically, by the attendants in panels and committees, hearing in between the guest speakers.

The main speakers and their subjects are as follows:—

Subjects	Speakers
"Development of regions to bring prosperity to ports"	Dr. Chujiro Haraguchi, *Mayor, City of Kobe*
"Port management"	Mr. Dudley Perkins, *General Manager, Port of London Authority*
"The relative merits of private, state and civil ownership of ports"	Mr. Howard Mann, *Chairman, Canadian National Harbours Board*
"The role of the port authority in the changing pattern of cargo movement on the Australian coast"	Mr. V. G. Swansan, *Chairman, Melbourne Harbor Trust Commissioners*
"A port's foreign representative—what is his field?"	Mr. Austin J. Tobin, *Executive Didector, Port of New York Authority*
"The relationship between all those engaged in a port and their employers"	Sir Andrew Crichton, *Managing Director, Peninsular and Oriental Steam Navigation Company*
"What does the user expect from a port authority?"	Sir Donald Anderson, *Chairman, Peninsular and Oriental Steam Navigation Company*
"The constitution and functions of the National Ports Council"	The Rt. Hon. Lord Rochdale, *Chairman, National Ports Council*
"The role of the port in a developing economy"	Mr. E. H. Simoes, *General Manager, Bombay Port Trust*
"Big ports, small ports—what are their respective roles?"	Captain Stig Axelson, *General Manager, Port of Gothenburg*
"The economic importance of a free port"	Dr. Heinz Kaufmann, *Manager Authority for Harbour and Shipping, Hamburg*

Viscount Simon assumes Presidency for next term

According to the nomination made by the Nominating Committee, Viscount Simon was unanimously elected the President of this Association for next term succeeding Mr. John P. Davis, on the closing day of the Conference. Concurrently, Dr. Chujiro Haraguchi, Major of Kobe and Mr. V. G. Swanson, Chairman, Melbourne Harbor Trust Commissioners, were elected respectively as the First and the Second Vice-President.

Mr. John P. Davis, ex-President, Elected Honorary Member

In the plenary session of the Conference on May 14, when it was closed, announcement was made of election of Mr. John P. Davis as the fourth Honorary Member of this Association.

Important Decisions of the Conference Reviewed

Amendment of the Constitution

BE IT RESOLVED

that Article VII (Conference), Article VIII (Voting) and Article X (Amendments) of the Constitution shall be amended by deleting the word "Triennial" wherever the same may appear in said Articles.

Amendment of the By-Laws

BE IT RESOLVED

that "$" mark in Article 1, Section 5 (Menbership Dues) is ambiguous, it is enacted that all "$" shall be corrected as "U.S. $".

Amendment of Supporting Membership Dues

BE IT RESOLVED

that Corporate Supporting Membership Dues (non-individual) which was once lowered from U.S. $ 50 to U.S. $ 35 last year shall be restored to U.S. $ 50 immediately.

Rules and Regnlations governing meeting by correspondence of the Members of this Association, the Board of Directors, the Executive Committee and Standing Committees.

BE IT RESOLVED by the Board of Directors of The International Association of Ports and Harbors, That the rules and regulations governing meetings by correspondence of the Members of this Association, the Board of Directors, the Executive Committee and Standing Committees of The International Association of Ports and Harbors be, and the same are, hereby adopted, as follows, to-wit:

RULES AND REGULATIONS GOVERNING MEETINGS BY CORRESPONDENCE OF THE MEMBERS OF THIS ASSOCIATION, THE BOARD OF DIRECTORS, THE EXECUTIVE COMMITTEE, AND STANDING COMMITTEES OF THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Section 1. **Meetings by Correspondence.**

A meeting by correspondence of the members of this Association or of the Board of Directors may be called and the date therefore may be fixed by the President or by the majority of the members of the Board of Directors (By-Laws, Sec. 13).

A meeting by correspondence of the Executive Committee may be called and the date therefore may be fixed by the President or by a majority of the members of the Executive Committee.

A meeting by correspondence of any Standing Committee may be called and the date therefor may be fixed by the President of by the Chairman or a majority of the members of any such Standing Committee.

Sec. 2. **Notices of Meetings by Correspondence.**

Notice of the call of any meeting by correspondence of the members of this Association, of the Board of Directors, of the Executive Committee or of any Standing Commit-

Rt. Hon. Tom Fraser, M.P. Minister of Transport at Opening Ceremony

tee, shall be given by the Chief of the Central Secretariat in writing by airmail or by telegram, radiogram or cablegram to each member of this Association, of said Board, of said Executive Committee, or of any of said Standing Committees, as the case may be, and shall be postmarked or filed for transmission by telegram, radiogram or cablegram not less than thirty (30) days prior to the date fixed for any such meeting by correspondence, which said notice shall (a) state the manner of call of said meeting by correspondence, (b) state the date fixed for said meeting by correspondence, (c) contain an agenda of consecutively numbered subjects to be voted upon at such meeting, together with the text of any resolutions or any other actions proposed for vote, and (d) contain a ballot form of consecutively numbered subjects, corresponding to the agenda, by which, or in accordance with which the members of this Association, said Board, Executive Committee, or any Standing Committee, as the case may be, may register their votes upon any or all of the subjects set forth in the agenda for such meeting by correspondence.

Sec. 3. **Voting at Meeting by Correspondence.**

A member of this Association, a Director or a member of the Executive Committee or of a Standing Committee shall be deemed to have voted on a subject at a meeting by correspondence,

(a) if he shall have communicated his vote, in the affirmative or in the negative, on such subject to the Chief of the Central Secretariat, either by marking and mailing a ballot or by sending a telegram, radiogram or cablegram with his vote, in the affirmative or in the negative, indicated in conjunction with the appropriate numbered subject corresponding to the numbered subject on the agenda or ballot, and if such mailing is postmarked, or such telegram, radiogram or cablegram is filed for transmission prior to mid-night of the date fixed for such meeting by correspondence, or

(b) if he shall have failed to communicate his vote on such subject to the Chief of the Central Secretariat in the manner and within the time specified in subsection (a) of this section, in which event his vote on such subject shall be deemed to be and shall be entered as in the affirmative.

Sec. 4. **Majority and Two-thirds Vote at Meeting by Correspondence.**

At meetings by correspondence, the Board of Directors shall exercise its powers and duties by resolution adopted by at least two-thirds of all the Directors, and the members of this Association, of the Executive Committee and of Standing Committees shall exercise their

Rt. Worshipful Mayor of Westminster (London),
Sir Charles Norton, speaking at Opening Ceremony

powers and duties by resolution adopted by at least a majority of all of their members.

Sec. 5. **Effect of Action Taken at Meetings by Correspondence.**

In the case of the members of this Association, the Board of Directors, the Executive Committee, and any Standing Committee, any resolution or other action, proposed and adopted by correspondence in substantial compliance with the Constitution and By-Laws of The International Association of Ports and Harbors and with these Rules and Regulations, shall have the same force and effect as though such resolution or other action had been adopted or taken by the members of this Association, the Board of Directors, the Executive Committee or any Standing Committee, as the case may be, at a regular meeting thereof.

BE IT FURTHER RESOLVED, That Resolution No. 2, adopted by the Board of Directors of this Association at a meeting by correspondence held August 15, 1960 (No. 2-BM/BC/7/60), be and the same is hereby rescinded.

Extending appreciation to H. R. H. The Prince Philip. Duke of Edinburgh.

BE IT HEREBY RESOLVED

that the members of the International Association of Ports and Harbours at their Fourth Conference in London from May 10th to 14th 1965 record their high appreciation of the honour conferred on them by their Patron H. R. H. The Prince Philip. Duke of Edinburgh, K.G., and thank him for his good wishes and the interest which he has shown in their Conference.

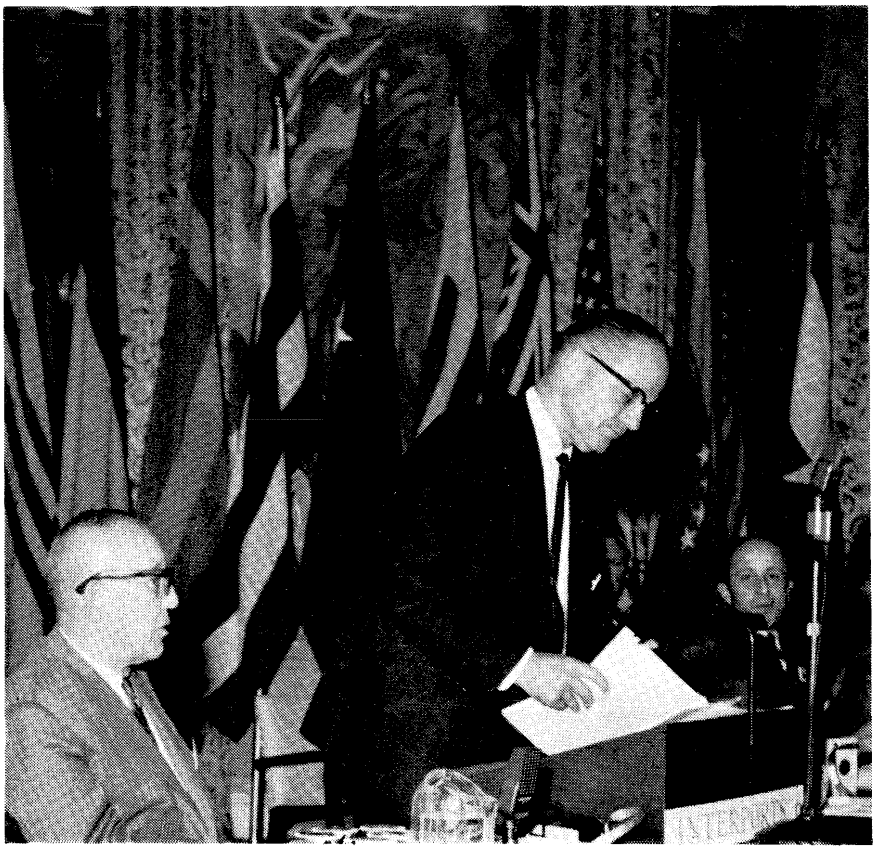
Extending appreciation to Rt. Hon. The Lord Mayor and the Corporation of London.

BE IT HEREBY RESOLVED

that the members of the International Association of Ports and Harbours at their Fourth Conference in London from May 10th to 14th 1965 express and record their thanks to the Rt. Hon. The Lord Mayor and the Corporation of London for their interest in the Conference and for the generous hospitality shown to members and their ladies on the occasion of the reception held at the Guildhall on 12th May 1965.

Extending appreciation to the Chairman and members of the Port of London Authority.

Dr. Chujiro Haraguchi, Mayor of Kobe, speaking at Opening Ceremony



Plenary Meeting: Mr. C. L. Vickers (Long Beach), reporting

BE IT HEREBY RESOLVED

that the members of the International Association of Ports and Harbours at their Fourth Conference in London from May 10th to 14th 1965 express and record their gratitude and warm appreciation to the Chairman and members of the Port of London Authority for acting as hosts to the Conference and for arranging a memorable week of interest and hospitality for the members and their ladies.

Extending appreciation to the Chairman and members of the Organising Committee, distinguished speakers, etc.

BE IT HEREBY RESOLVED

that the members of the International Association of Ports and Harbours at their Fourth Conference in London from May 10th to 14th 1965 express and record their thanks and gratitude to the Chairman and members of the Organising Committee, the distinguished speakers and gentlemen who took the Chair at the various meetings, the Secretariat, the interpreters and to all those others associated either directly or indirectly with the arrangements which have contributed in so great a measure to the success of the Conference.

Tokyo to be the Place of Next Conference in 1967

At the pre-Conference Board of Directors meeting on May 10, and at the closing session of the Conference on May 14, it was unanimously agreed upon that next Confirence would be held in Tokyo, Japan, in 1967.

In this connection, Mr. Eisaku Sato, the Premier of Japan, sent the following message to the Association:—

It is my very great pleasure to learn that the Fifth Biennial Conference of the International Association of Ports and Harbors will be held in Tokyo in 1967.

On behalf of the people of Japan, I wish to extend our warmest welcome to you.

In Japan which is an island state, the improvement of ports has an unparalleled position of importance in the development of our national

economy. In the light of this fact, the Japanese people have a very great interest in the activities of your Association.

We earnestly hope that your Association, which has celebrated the tenth anniversary of its establishment, will continue to prosper in the years to come.

We are looking forward to meeting you in Tokyo in 1967.

In closing, permit me to extend my personal wishes for the success of your Conference in London.

Eisaku Sato
Prime Minister of Japan

Activation Committee to be inangurated

Pursuant to the draft resolution submitted by Mr. Gaku Matsumoto, Chief of Central Secretariat, it was decided to appoint an Activation Committee to assist the developing countries in improving their ports and functions. The draft is as follows:—

Resolution, assisting the developing countries in improving their ports and functions thereof

WHEREAS, it is a global trend to offer assistance to the developing countries, as seen in the intention of OECD and the resolution made by the United Nations Conference on Trade and Development at Geneva, March—June, 1964, and various measures of aid programme have been discussed and taken thereupon; and

WHEREAS, it appears what such countries truly desire for is not case-by-case aids but more basic ways and means through which they can develope their industry and trade on their own initiative; and

WHEREAS, the International Association of Ports and Harbors has grown full to be a world organization with the 10th year of its birth, and now has substantial grounds as an organization of port people to take such an action in view of the objects of its founding; and

WHEREAS, it is its mission to contribute to the expansion of world trade, interdependent one country on another, and the promotion of resultant peace and welfare

Mr. W. J. Amoss (New Orleans), reporting

Mr. H. Sato (Tokyo) speaking

of mankind, as stipulated in its Constitution; now, therefore,

BE IT RESOLVED, by the International Association of Ports and Harbors, that it considers most imperative for all developed countries to direct their assistance toward the developing countries at the improvement of the ports, which serve as the gateways to international trade, so that they may fight for their industrial and economic growth on their own feet; and

BE IT FURTHER RESOLVED, that it shall establish an Activation Committee and make positive appeals to world organizations, such as U.N., World Bank, O.E.C.D., I.M.E., and others, for collaboration in bringing this resolution to an eventual reality.

The Committee shall be composed of 9 members. Mr. Austin J. Tobin, Executive Director, Port of New York Authority, was elected as Chairman of the Committee.

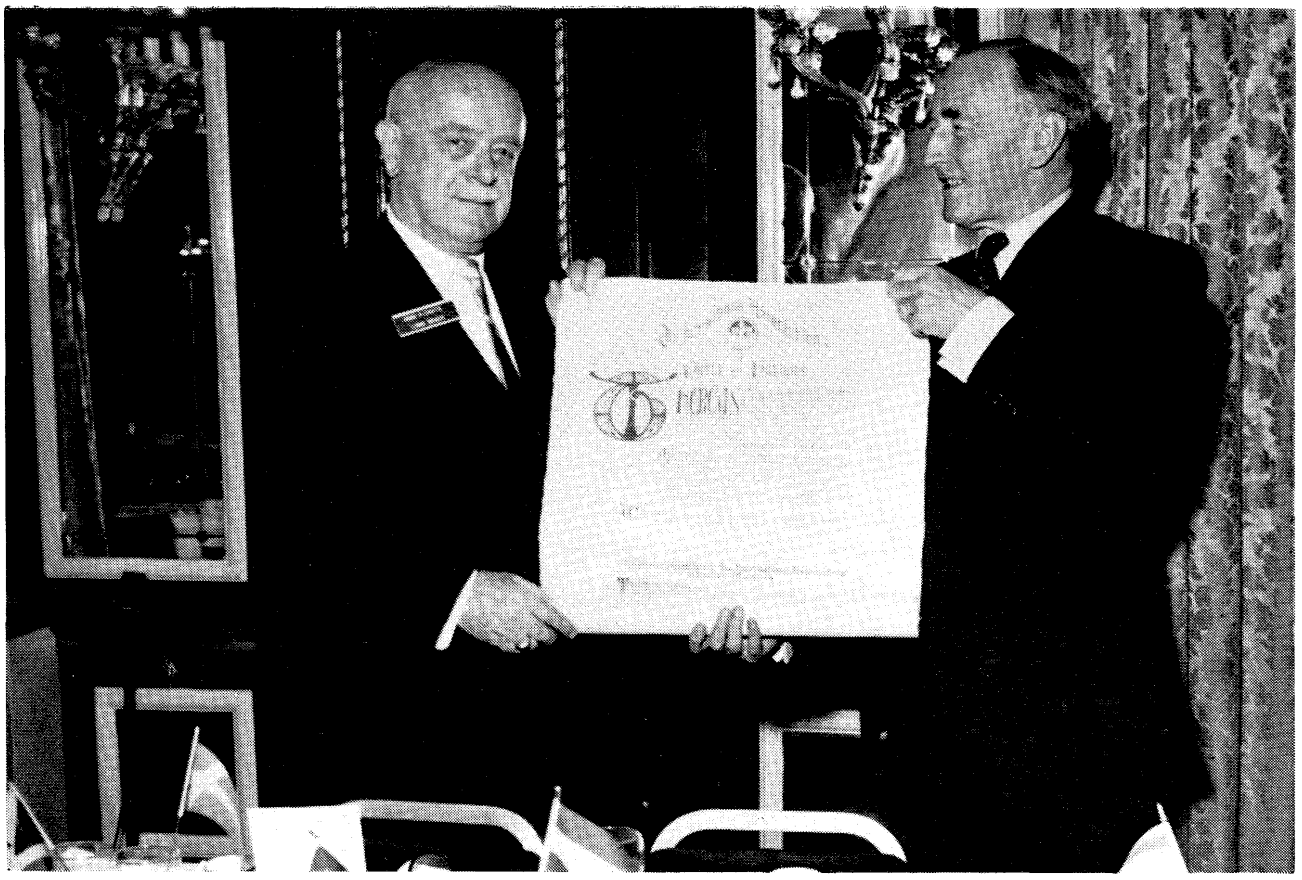
Joint Legal Council Enlarged

To cope with the enlarged Association membership, the joint legal council was enlarged from the existing five members to eight, including Mr. Gengo Tsuboi, Alternate Director of Japan and two gentlemen, one each from the United Kingdom and the Continent. The last two will be nominated later.

Special Committee to be established

It was decided that Special Committee (Thinking Committee) to be established. Mr. Howard A. Mann, Chairman National Harbour Board, Ottawa was elected the Chairman.

Plenary Meeting: (From left to right)
Mr. Gaku Matsumoto (Tokyo)
Mr. M. Chandrasoma (Colombo)
Mr. V. G. Swanson (Melbourne)
Dr. C. Haraguchi (Kobe)
Mr. John P. Davis (Long Beach)
Viscount Simon (London)



Viscount Simon presenting Mr. John P. Davis with Honorary Member Scroll

Mr. J. Ivar-Dahlin (Helsingborg), Mr. L. Bergfelt (Gothenburg)
and Mr. Dudley Perkins (London)

Viscount Simon speaking at Banquet. (Left to right)
Viscount Rochdale, Mrs. John Davis, Viscount Simon,
Mrs. Dudley Perkins and Mr. John P. Davis

Mr. Bernard Caughlin (Los Angeles),
President, Mr. John P. Davis (Long Beach) and Mr. W. J. Amoss (New Orleans)

The Importance of Industrization of The Port Area

By F. Posthuma
Managing Director
Port of Rotterdam

Mr. F. Posthuma

The importance of industrialization of the port area.

The title of my contribution to this column is not without ambiguity. The establishment of industrial plants within the port area raises two questions: What benefits derive industries from settling in the port and to what extent is this advantageous to the port?

The migration of several branches of industry to the large seaports is unmistakably not a phenomenon which occurs in certain countries or areas only, but it can be observed the world all over. And it applies to particular industries which in the past were settled either in the continental hinterland of the ports or in overseas areas. It is equally unmistakable that this development is accompanied by a migration to the seaports of other industries, which themselves have not primarily a need for sites immediately along deep water, but are choosing such locations for other reasons.

In view of the general character of these tendencies it might be of interest to the international forum of this valuable organ to discuss these problems. In the course of my work as general manager of the port administration of Rotterdam, I am daily confronted with the practical answers to the above-mentioned questions. It is my intention to ventilate here some theoretical considerations, keeping in mind the main features of the factual development of Rotterdam, for at every turn the structural changes in the location factors of industrial activity became apparent in our port in an early phase.

Establishing with the port area is advantageous to industry.

Since former days seaports have exerted a magnetic influence on certain industries. In the first instance seaports attracted shipbuilding and repairing activities; their location is physically tied to deep water front, whilst the availability of sufficient qualified labor and the possibility of cheap transport of shipbuilding materials from overseas offer additional advantages. This tie between the port area and the production of these highly valued industrial products, which themselves are built up from a large variety of components, stimulates the establishment within the port area of a wide range of other industrial plants as suppliers to the shipyards (iron and steel foundries, machinery and shipmotor works, boiler shops, contractors for fitting out ships, manufacturers of anchors, chains, ropes, winches, etc., etc.).

The port itself, being an apparatus for the handling and storing of merchandise, is also attracting its suppliers (construction plants, specialized yards for building dredgers, tugs, firefighting boats, cranes, loading bridges, etc.). All these plants have two characteristics in common. All of them are somehow related to seatransport and are for this reason coupled in the notion of sea traffic industry. And all of these plants have to deliver their products in a seaport. Their clients are normally located in the port. As a result production within the port area itself means saving in costs, at least on transport.

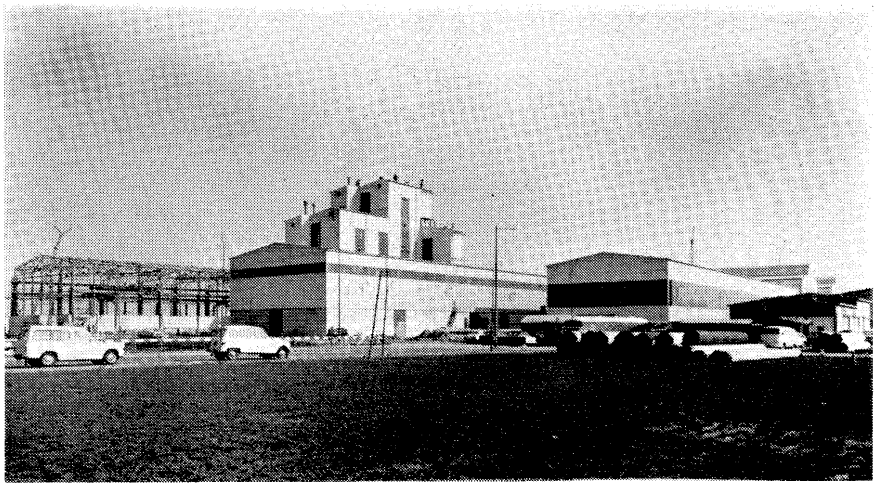
A seaport is also the place through which raw materials from overseas are imported on behalf of the foodstuffs-industry and other light industries. In so far as many of these factories are exporting their products again for consumption overseas, total transport costs at the final destination will be lowest if the manufacturing plants are located along the seaboard. In this case the entrepreneur can evade to transport the product twice along the same route, first as a raw material and then as a final product. This cost consideration explains why so many coffee-roasting establishments, fish-preserving factories, saw-milling yards, manufacturers of milled grain, rolled oats, vegetable oils, oleo-margarine, tobacco, etc., etc. are located within the seaports.

The above-mentioned examples illustrate the fact, that transport costs have always played an important role in considering seaports as a possible location for industrial plants.

In a still higher degree the significance of transport costs for price competition has always been foremost in the minds of the leaders of the primary industries, i.e. of the producers of semi-finished and finished products made from minerals such as crude oil, coal, ore, phosphate rock, sulphur, etc. Due to the fact that in these processes the value added per unit is rather low, the relative part of the transport costs in the total cost price is

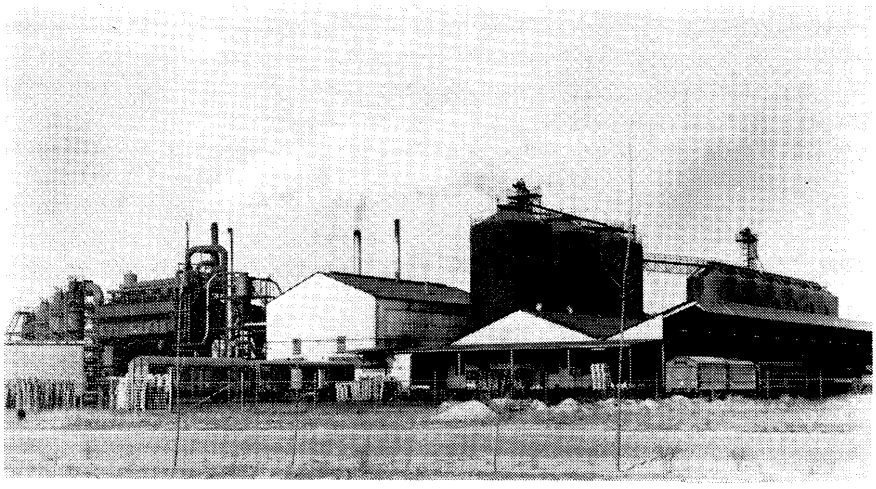
larger than in many other branches. And the portion of transport costs is even subject to a continuous increase, because improvements in production techniques result in a progressive reduction of the costs of production proper. That is why especially the primary industries are enforced to strive constantly and consistently for the greatest economics of transport possible. And nowadays just these industries are the backbone of the industrial expansion all over the world. In addition these factories have to carry the bulk of their raw materials increasingly over much longer distances and consequently they have become the main factor in sea transport. This fact in itself tends only to bring about an increase in the volume of trade via the seaports, which is exactly what happened. However, since World War II, structural changes appeared in the patterns of distribution and supply of the two most important basic industries, the oil refining and the steel producing industries. This evolution inaugurated a new era in the industrialization of seaport areas. For quite a number of seaports and especially so for Rotterdam this phenomenon is of such a far-reaching significance that I have to go more into detail.

From the viewpoint of transport economies an entrepreneur has to establish his production unit at such a location between the origin of the raw material and the area of final consumption, that the sum of all transport costs is minimum. In other words, he has to shorten either the route of the raw material or of the final product. The optimum location is shifting whenever changes occur in the costs of transport of raw materials or of final products. In its early stage the volume of demand for petroleum products was rather modest in comparison with the present situation and for this reason demand was widely scattered. A single refinery had therefore to distribute its products over a large territory and in small individual lots. As a consequence the total distance of the several transport routes of the final products was very large and savings on transport costs were impossible. The logical solution to minimize total transport costs was shortening the route of the crude oil. In this first phase in the development of the oil industry (1880—1945) the bulk of the refining capacity was located in the immediate vicinity of the oilwells (Gulf Coast, California, Caukasus, Caribbean, Iran, Roumania, Indonesia).



Aluminium Works at Botlek area

During and after the Second World War consumption of oil products increased enormously in volume and in kinds of use. The industrialized areas of the world developed into huge consumption areas, where demand for oil products was highly concentrated, e.g. Western Europe. Now it became possible to minimize the transport of the final products by locating new refinery capacities near to the consumers. And this shift in the balance of location factors gathered momentum through technological improvements in sea transport. The growth in carrying capacity per tanker made it still more advantageous to transport crude oil in ever larger bulk shipments to these consumer-oriented refineries, for the costs of sea transport per tonmile decrease as ship's sizes increase. During the first post-war decade a large number of these newly built refineries were situated on the seaboard and not in the interior of the continent. This line of conduct too was based on calculations of transport costs. Fuel and losses consume between 5 and 10% of a refinery's crude intake and oil company saves on transport of these quantities to the interior by choosing the site of its refinery within the port area. Moreover, a seaboard location offers the advantage of cheap transport to overseas consumer areas. Naturally those ports, which can receive the largest tankers afloat, are in the strongest position to attract these new refineries. And even more so if they have good connections with the



Carbon Black Works at Botlek area

hinterland. With overall consumption growing rapidly smaller regions developed where the local demand was sufficiently high to induce the oil companies to erect small refineries, thereby again reducing the transport distances of the final products and at the same time lengthening the route of the crude oil. This time another technological change in transport exerted an enormous influence. The high costs of transport by conventional means of inland transport could be reduced by the introduction of trunk lines of large diameter for the transport of crude oil from the seaports to the inland refineries. The opinion, that by this development the seaports are outdated as location centers for refineries is nevertheless by no means justified. Demand for oil products will continue to grow in the whole consumption area and not only in those regions where this growth has been conspicuous in the last few years. And with an increasing number of small and medium-sized refineries the need for large balancing refineries will grow and their location in the big seaports will always be the best proposition. Also, a further concentration of demand in particular regions of the hinterland will justify the investment in large productlines, which could very well result in a new wave of refinery construction on the seaboard.

Those factories which prefer to import their raw materials in bulk carriers or supertankers as well as other industries which need a site along deep water are termed seaport industry. Another category is the so-called derived seaport industry, comprising those factories which do not themselves import their raw materials from overseas, but instead are buying them from the first mentioned industries. An actual example of such a derived seaport industry are the petrochemical plants. This branch of industrial activity is motivated to establish its plants in the immediate vicinity of the refineries for technological, economical and commercial reasons. Their raw material consists of semi-finished and finished products of the refineries and frequently they interchange semi-finished products. Transport is often difficult and dangerous, whilst in many instances transport over long distances is undesirable in order to prevent large variations in temperature or chemical reactions during transport. As a result one of the main characteristics of an oil and petrochemical center in a seaport like Rotterdam is a very complicated system of pipelines. The presence of a large number of refineries within the port area is another location factor, attracting new petrochemical establishments. The larger and the more differentiated the refineries are, the stronger and wider is the raw materials-basis of the petrochemical industry, which as a rule needs large production-units (economies of scale) and which for commercial reasons is interested in a wide choice between different suppliers. On the other hand, a fullgrown petrochemical industry within the port area is itself an asset of the port in attracting new refineries to settle in the port area.

Areas with deposits of both coal and iron ore are still the most favourable locations for the iron and steel industry. Such a combination of location factors is, however, rare. In the whole world there are only a few places such as Corby in England, Alabama in the U.S.A., South Africa and the district of India where the Tata-works and the plants of Bhilai, Durgapur and Rourkela were built. For the rest iron and steel plants were located in the past in the immediate vicinity of either ore deposits or coal deposits. Apart from Jmuiden at the Dutch coast, which plant already started operations in 1924, it was especially after World War II that seaboard locations for iron and steel plants came into the vogue (Bremen, Germany; Fairless Works and Sparrows Points, U.S.A.; Dunkirk, France; Zelzate, Belgium; Cornigliano, Piombino and Bagnoli in Italy and many works in Japan). Again the explanation is to be found in structural changes in transport costs.

In the highly industrialized areas of the world the original ore deposits become gradually exhausted and to an increasing extent iron ore has to be carried over long distances by sea. Though the Fe-content of the ores from overseas is proportionally high (between 50 and 65%), the costs of their conveyance are nevertheless considerable in comparison with their intrinsic value. This is the more true in relation to the costs of inland transport by barge or by rail which per tonmile are respectively from 2 to 5 and about 15 times higher than the costs of seatransport. So in locating blast furnaces along the seaboard the entrepreneur eliminates part of the dead freight from the cost price of steel. An additional factor is the technological development of blast furnace techniques resulting in a reduction of the specific consumption of coke per ton of pig iron and thereby stressing the relative significance of the cost element of ore transport. This tendency reinforces the locational advantages of blast furnaces along the seaboard. The construction of bulk carriers of 40,000 tons, 65,000 tons and still larger carrying-capacities again favours those seaports which can accommodate giant vessels. Those seaports which at the same time provide cheap connections to the consumer areas in the hinterland, preferably by water, together with a highly-developed network of regular shipping-lines to overseas markets offer the iron and steel industry the best location from the viewpoint of transport economics. Once a steel industry has been established within the port area, it is very likely that also in this case derived seaport industries will follow suit.

I have stressed the importance of transport costs as a location factor for particular industries. I am quite well aware of the fact, that this factor may be overcompensated by other considerations, such as e.g. national—if not nationalistic—points of view, the pursuit of being self-supporting, social aims, etc. However I confine myself to purely economic considerations, because of

the fact that the other ones are out of the scope of the port manager of Rotterdam.

Establishing within the port area is advantageous to seaports.

The above described evolution manifests itself in the seaports. But to a certain extent their role is rather a passive one, as they cannot bring on such a development on their own. Seaports can only try to further such a development by reacting positively. Many ports indeed make unusual exertions to create the necessary facilities.

When a seaport is to be considered as a harmonious complex of activities, which are principally directed towards reaping benefits through loading and discharging seagoing vessels, the question rises to what extent the establishment of industries within the port area is advantageous to the port.

A seaport is always an integrated part of a local, a national and even an international community and it is often defended that the general benefits of industrialization to the community are sufficient to justify a cooperative attitude of the port in adjusting its infrastructure. Naturally a port has to perform a function in the economy at large, but we in the Netherlands are of the opinion that such investments should at least make themselves pay.

Furthermore, the rendering of services and the production of goods both have become the normal functions of modern world ports. The appropriation of infrastructure and other facilities for both functions is from the viewpoint of port economics equally interesting to the port administrator.

Finally, the industrialization of the port area stimulates the sector which renders services to international traffic. The volume of trade which is handled in a seaport depends largely upon its "catchment area." This is not a clearly defined geographical area, but differs for each item of goods. For any given shipment the hinterland of a port extends to every place on the continent to or from which transport via that seaport is cheaper than any other port. The hinterland of any port as a whole can therefore never be a monopolized territory of that port. It will always be more or less the potential hinterland of one or more competing ports. Variations in the composition of the flows of goods or in the nature of these goods which enter or leave the continent, changes in trade connections and in the techniques of transport or in the cost relationship between competing modes of transport, all these factors may influence the volume of trade via a port. Only that portion of the port's trade which originates from the industrial activities within the port area itself is more or less monopolized by the port and provides in this sense a "basic load" for the utilization of the port's facilities. Most seaport industries have an immanent propensity for economies of scale, for large production-units. They consume large quantities of raw materials from overseas and as a sequence of their size they usually depend on a larger market area than the immediate vicinity of the port; hence their need for export to overseas destinations. In both these respects, imports and exports, these industrial plants have to rely on the same port, such in contrary to plants in the interior of the mainland, which often have a tie with a port in only one direction.

In general it can be stated that seaport industries belong to the hinterlands of an other port when they are not located within one's own port area. Their presence in the port means therefore a real enlargement and a wider differentiation in the trade potential of that port's hinterland, which is far more than a mere reorientation inside a given sphere of influence of the port. The result is a stabilizing effect on the port's position, rendering the port less vulnerable to cyclical fluctuations and political factors. And it is only on the basis of a large and stable volume of trade that port managers can justify the huge investments in infrastructure and port facilities, which world ports nowadays are obliged to keep abreast with the technological development in modern sea transport and cargo handling.

A typical port function is the storage of all kinds of merchandise, which more and more require the use of specialised techniques. This function is strongly stimulated by industrial activities within the port area. Local production renders the port into a center of distribution of industrial products which cannot be stored in the conventional sheds and warehouses. Once these specialised storage facilities have been created, the import and storage of like products for further distribution follows suit.

Another development which is largely influenced by local industrial activity is the widening of the general cargo traffic via a port. In this connection one could speak of a multiplier effect. An increase in the volume of general cargo tends to further an expansion of the number of regular shipping lines calling on that port and also to increase the frequency of their sailings. This in turn has the effect to attract additional general cargo trade and to stimulate the establishment of other export industries.

Finally, hand in hand with the development of port traffic of highly valued merchandise new possibilities emerge to introduce new transport techniques, such as roll on—roll off, lift on—lift off, which inaugurates a new phase in quick despatch. The subsequent economies again re-inforce the attractiveness of the port.

Summing up, I come to the conclusion that the presence of industrial activity within the port area is a valuable asset for the harmonious development of the many-sided port functions of a modern and fully integrated world port.

PORTS and HARBORS
JUNE, 1965 Vol. 10, No. 2

PORT OF STOCKHOLM

The Stockholm City Harbour Board
Port of Stockholm

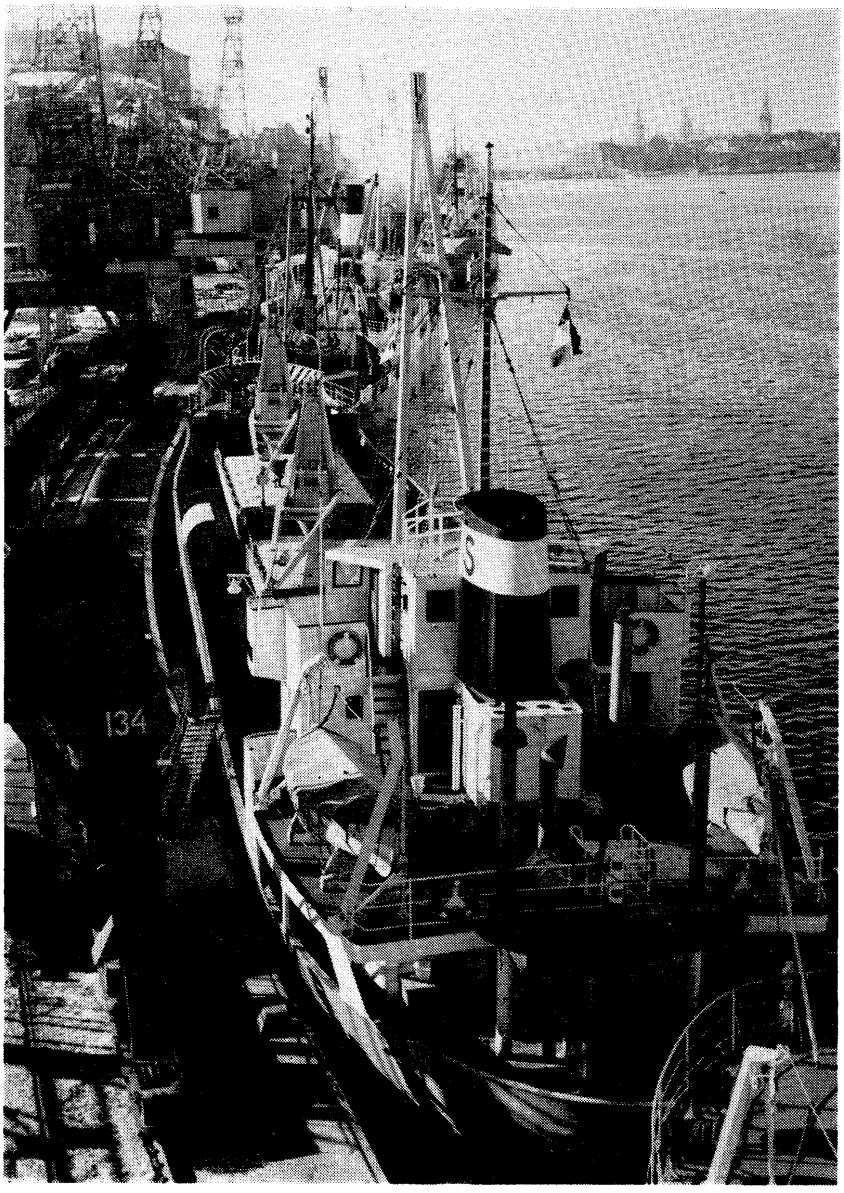
STOCKHOLM, the capital of Sweden and the biggest city in the country, is centrally situated on the east coast of Sweden—an exellent position for commerce and navigation. The city lies between Lake Malar (the third largest in size of Swedish lakes) and the Baltic; an archipelago containing thousands of islands is between the city and the Baltic. Stockholm has a population of 799,000, while the Greater Stockholm Area has 1,211,000 inhabitants. The Port of Stockholm consists of some twenty separate harbour installations, of which the most important are situated on the Baltic side.

Stockholm during the 14th and 15th centuries was the trading centre of Sweden as well as the main place of trade for northern Sweden and the greater part of Finland. During the 17th century the importance of Stockholm as a port increased and it was favoured by a number of royal charters. Economic development during the 18th century also favoured Stockholm, as iron became the most important commodity in Swedish trade and Stockholm merchants handled the greater part of the export of iron. Stockholm was the leading port for the Swedish export trade right up to the 19th century; its imports were also considerable and the values of exports and imports were about equal.

Economic development during the latter half of the 19th century, the arrival of the railways, the changes in iron and steel making, the growing importance of forest products as export items and several other factors have been instrumental in Stockholm losing its position as the foremost export of Sweden. Through the expansion of industry in the capital during the latter part of the 19th century and the consequent marked increase of the number of inhabitants, the consumption of goods increased as well as the need for raw materials for industrial production. From originally being an export port, the Port of Stockholm thus changed its character and became one of the greatest ports dealing with imports into Sweden.

Port Traffic

Stockholm has considerably increased its maritime trade and especially during the present century when Sweden has begun to operate its own modern vessels on several sea lanes to various European and transocean ports. While as late as the end of the 19th century Swedish vessels were still mainly engaged in coastal traffic on the Baltic and to North Sea ports and transocean exports were transshipped via Hamburg, Hull and London, the Port of Stockholm today has some fifty shipping lines operating regular services to most



Stadsgardshamnen

of the coastal ports of Europe, North and South America, the Orient, East Asia, Australia and Africa.

In 1963 the Port of Stockholm reached the highest tonnage figures for vessels handled, both as a grand total and for international traffic. Altogether the vessels handled totalled 12.37 million net registered tons, of which international traffic accounted for 9.02 million n.r.t. The number of vessels, arriving, departing and calling, totalled 36,219, of which 8,105 were in international traffic. The total of vessels was certainly less than in previous years but on the other hand according to registered figures there was an increase in the average size of the vessels. This principally applied to vessels in international traffic.

Goods traffic, too, in 1963 reached the highest figure to date—totalling about 6.5 million tons. The total figure includes the departing Swedish coastal traffic which is put at 0.3 million tons. The incoming Swedish coastal traffic totalled 2.5 million tons. International traffic departing from Stockholm involved 0.6 million tons while the international traffic arriving totalled 3.1 million tons.

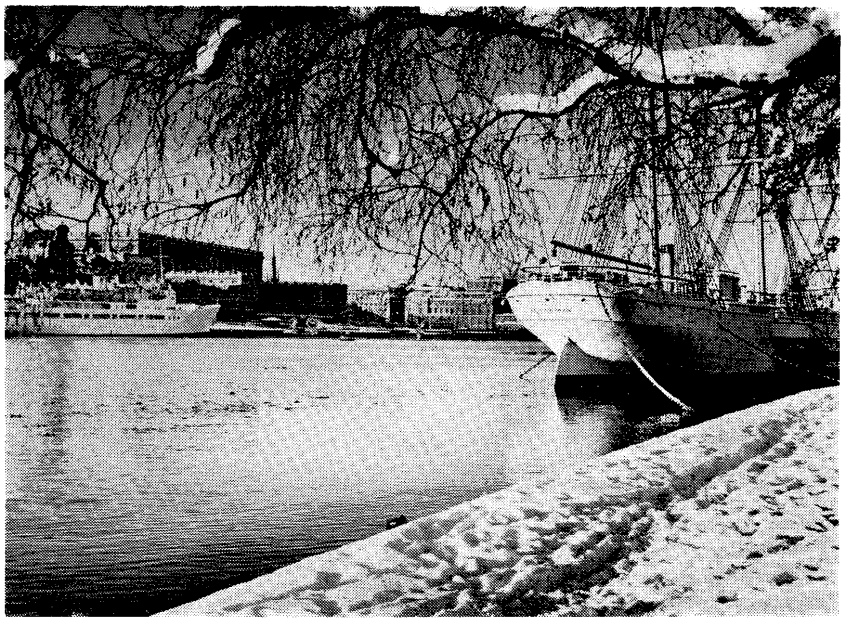
Despite their relatively small volume the goods exported represent a considerable value. To a large extent exports consist of machinery and other manufactured products. In the main, imports consist of commodities for the population of the Greater Stockholm Area as well as raw materials for the industries of this area. These industries mainly depend on the Port of Stockholm for their raw material imports. A considerable part of the commodities passing through the port goes to the capital's extensive wholesale trade, which distributes them throughout large areas of central and northern Sweden.

As to the various classes of imports it can be mentioned that the import of mineral oil has expanded considerably while there has been a corresponding drop in the import of coal and coke. Thus the import of mineral oil which was 0.6 million tons in 1948 rose to 1.7 million tons in 1963.

Harbour Installations

Today the Port of Stockholm consists of a number of separate harbour installations with quays totalling some 16 kilometers in length. About 6 kilometers of these quays are used for passenger and general cargo traffic, while the rest are mainly given over bulk cargoes. Among the more important installation mention can be made of the following:

Vartahamnen (Varta Harbour) is the main harbour for bulk cargoes, coal and coke, as well as grain. This is also one of the oil docks for Stockholm. The increacsing import of oil has necessitated in recent years the preparation of new areas in Vartahamnen for oil installations. Today there are six oil depots and a further extention of these depots is planned. The harbour has a length of quay totalling 2,500 meters and a depth of water alongside of



5.3 to 11.0 metres.

The Free Port is the largest and best equipped harbour installation for general cargo in Stockholm. The length of quay is some 1,500 metres and the depth of water alongside 7.6 to 10.3 metres. The Free Port occupies a large area and contains considerable storage space in warehouses, sheds and silos. All warehouses and some sheds are heated. In the warehouses there are cool rooms and refrigerating chambers. The Free Port is mainly used for tended for the Greater Stockholm Area and extensive parts of central and northern Sweden. To a certain extent the Stockholm Free Port is also used as an entrepot. The annual volume of goods passing through the Free Port is over 500,000 tons. Goods entering the Free Port as well as export from it are mainly concerned with transocean or Mediterranean countries.

A new large warehouse is in course of erection on the pier in the Free Port. This warehouse will have two basements and five above-ground floors, in certain parts there will be a mezzanine floor. The basements will mainly be used for cool rooms and refrigerating chambers, the floors above for the handling of goods in connection with loading and unloading of vessels as well as for long-term storage of goods. Ten goods lifts will be installed for the transport of goods within the warehouses, which will also be equipped with loading balconies and loading ramps, designed and positioned to facilitate the efficient handling of goods. The warehouse will also have four passenger lifts for the dockers and staff. The new premises will form a very valuable addition to the storage facilities and services which the Port of Stockholm provides for port users.

The Oil Harbour at Loudden, which is Stockholm's largest oil harbour, has extensive docking facilities for tankers, as well as a large storage area, in which seven different oil companies have their cistern installations.

The increase in the volume of oil imported via the Port of Stockholm has necessitated a considerable extention of oil-unloading facilities. Thus the docking facilities within the oil harbour at Loudden have been improved by the erection of a pier at which it is possible to tie up on both sides, as well as new jetties replacing the earlier simple wooden jetties. The pier is 260 metres in length and has a depth of water alongside of 12 metres. It can receive two fully loaded oil tankers of up to 35,000 dw.t., which can tie up and discharge their cargoes at the same time. North and south of the pier eight smaller jetties of concrete have been built. The shore has a length totalling about 500 metres and a depth of water alongside of 9 to 12 metres.

Furthermore, the harbour is provided with underground storage facilities for petrol. These consist of a large number of vertical cisterns, blasted out of the rock beneath the above-ground storage tanks and lined with concrete and steel plate. They are situated below the water-level of the adjacent water course and the petrol is stored inside the cisterns on what is called a water bed, which completely eliminates the losses by evaporation generally occurring when petrol is kept in cisterns above the ground.

The harbour installation has been modernized in other respects new railway tracks, new driveways, as well as a tanker-lorry filling station used jointly by all the oil companies.

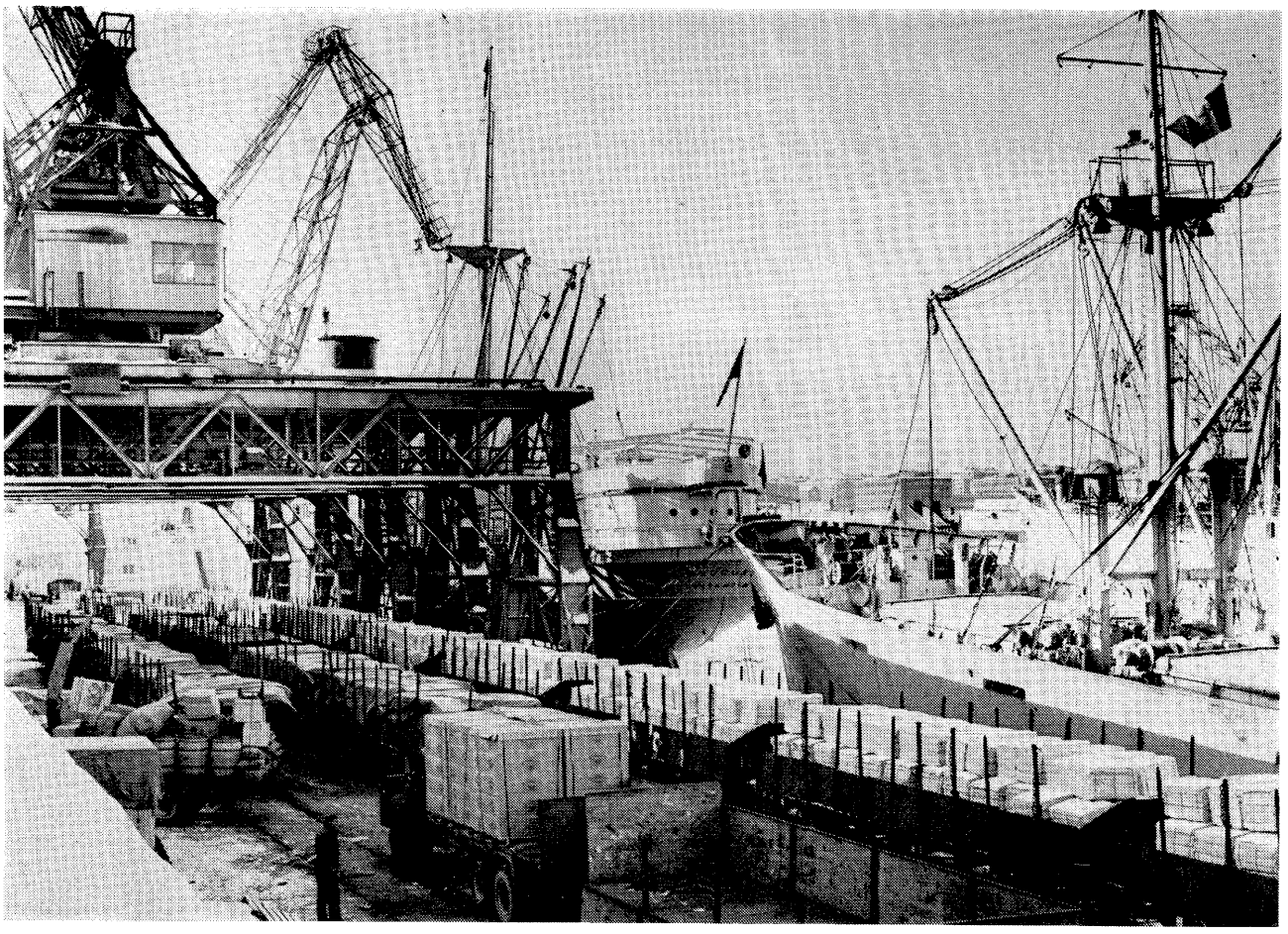
Skeppsbrohamnen (Skeppsbro Harbour) has a quay 570 metres in length and depth of water alongside of 5.5 to 6.1 metres. This is the centre for passenger and general cargo transport to and from Finland. The traffic is very dense; in 1963 there were roughly 350,000 passengers and 15,000 motor-cars transported to and from this harbour.

Stadsgardshamnen (Stadsgard Harbour), which has a length of quay totalling some 1,900 metres and a depth of water alongside of 5.6 to 9.6 metres, is used for tieing up of vessels in regular service to European ports and carrying general cargo. The harbour is situated right in the centre of Stockholm and has modern cranes and spacious storage facilities.

Hammarbyleden, a seaway constructed between 1917 and 1926 by the municipality, gives Lake Malar a direct connection with the Baltic at Stockholm. This seaway is 6,500 metres in length and has one lock, which can take vessels of up to 110 metres in length, 15 metres in width and with a draught of 5.5 metres at low water. On the Baltic on either side of this seaway the following two harbours face each other.

Norra Hammarbyhamnen (North Hammarby Harbour) is used for both general cargoes and bulk cargoes. It has a length of quay totalling some 1,700 metres and a depth of water alongside of 3.6 to 6.4 metres.

Sodra Hammarbyhamnen (South Hammarby Harbour) has a length of



The Free Port

quay totalling some 1,300 metres and a depth of water alongside of 4.0 to 6.4 metres, and is specially used by steel stockists and motor-car companies, including General Motors and Renault. Adjacent to the harbour is a large industrial area. A number of industries have established themselves here.

Arstadalshamnen (Arstadal Harbour), with a quay of some 500 metres in length and a depth of water alongside of 6.9 metres, is mainly used for the import of coal and coke as well as building materials. Within the harbour installation there is a part which is utilized for a special purpose, namely the receiving of bulk cargoes of wines and spirits. Here dock special tankers to discharge wine transported from the Mediterranean to Stockholm. After discharging, the wine is pumped through pipelines running through culverts beneath the harbour area to the giant underground vaults which are behind the quay in cavities blasted out of the solid rock. Through pipelines wines and spirit can also be pumped from railway tankers to the underground storage installations and vice versa. The installation thus facilitates the handling of wines and spirits in bulk.

Quays for Swedish Coastal Traffic and used for the transport of grain or cement or for the unloading of sand, stone, timber and other building materials are mainly lining the shores of Lake Malar and Lake Hammarby. These quays have a length totalling some 2,500 metres and a depth of water alongside of about 4 metres.

Technical Facilities

Today the Port of Stockholm has 141 modern cranes, including floating cranes, at the disposal. The moveable cranes are all electrically operated and have an average lifting capacity of between 2.5 and 10 tons for general cargoes and between 5 and 10 where bulk cargoes are involved.

"Lodbrok", the largest of the floating cranes, is capable of lifting 220 tons with a 10-metre outreach beyond the edge of its pontoon. This crane has its own propelling machinery, consisting of two diesel engines, which work together with the lifting mechanism; this saves considerable time in the handling of cargoes.

Despite the hard Swedish winter the port and its approaches are never closed by ice. Open passage is ensured by the two municipally owned ice-breakers, the S/S S:t Erik, which has 4,000 I.H.P., and the M/S Starkodder, which has 960 I.H.P.

The wireless communications in the port have been developed and now include installations for the port wireless service, wireless communications with cranes, a wireless telephone system for the port and and a communal service for receiving sets in road vehicles. This makes possible a quick and reliable service for both vessels and for dockers, customs officers and pilots. Consequently these installations enable efficient and streamlined loading and unloading operations to be carried out in the port. The port wireless service, which is the latest of

the above-mentioned communication equipment, works on the international maritime VHF band, the main transmitter being remote-controlled from the office of the Harbour Board. Similar wireless equipment has been installed on the municipal ice-breaker, S:t Erik. It is intended that the harbour pilots shall be equipped with portable wireless transmitters. The port wireless installation has sufficient range to ensure direct contact from the main transmitter to vessels approaching the pilot stations at the outreaches of the port.

Within the harbour area there are usually two or three railway tracks along the quays and additional tracks at the rear of the harbour area. These tracks are connected with the network of the Swedish State Railways. Stockholm has rapid and frequent transport connections and services with all important parts of Sweden for both passengers and goods.

The Stockholm City Harbour Board

The harbour is owned by the City of Stockholm and has been administered since 1909 by the Stockholm City Harbour Board. The Board consists of a chairman, appointed by the City Council from among the City aldermen, and also six other members appointed for two years: one by the Swedish Government, one by the Stockholm Chamber of Commerce and four by the City Council.

The Harbour Board is responsible for the management of the municipal harbour system. According to current regulations the Board shall provide harbour installations with the appropriate facilities, equipment, material and the like, provide the necessary ice-breaking facilities, receive the stipulated harbour dues, as well as issuing certain by-laws and determining port charges.

Coming under the Habour Board is the Harbour Authority, which is under the immediate direction of the General Manager.

Stockholms Frihamnsaktiebolag, which is a munipally owned company, operates the Free Port. According to an agreement with the Harbour Board, this company has the right to use the Free Port and its buildings and installations. However, the necessary maintenance and construction work are the responsibility of the Harbour Board, although the maintenance of buildings it the duty of the company. Thus it can be said that the Free Port is administered by the Harbour Board as far as the installations are concerned, and by the company as far as operations are concerned.

For the purposes of the maintenance of the Free Port the Board of the company is assisted by a managing director.

Port Charges

For services rendered to harbour users the Harbour Board is entitled to charge stipulated fees. The most important is the harbour dues regulating the fees which are to be paid by vessels calling at the harbour and on goods passing through the port.

Harbour dues: Present rates, in force up to end of 1966.

For vessels:

The Free Port

1. Foreign going: Tramps, 42 öre n.r.t. payable both inward and outward; corresponding dues for regular transocean traffic 30 ore per ton on goods loaded and/or discharged; max. charge 24 ore, minimum charge 9 ore per n.r.t.; for other regular traffic 24 ore per n.r.t.
2. Domestic traffic: Tramps, 20 ore per n.r.t., payable both inward and outward; corresponding dues for regular traffic, 10 öre per n.r.t.
3. Tourist vessels of 400 n.r.t. or more pay 13 öre in foreign traffic and 6 öre in domestic traffic per n.r.t. both inward and outward.
4. Vessels only calling at the harbour area pay the dues for arrival.

For goods:

To be levied on all arriving goods; as to outgoing goods, however, only on those leaving for foreign places. The rate is specified for the majority of the various classes of goods, limited to max. 180 and 72 öre per 100 kg on goods arriving from foreign and home places respectively. Goods leaving for foreign places are charged a max. of 20 öre per 100 kg. On goods transshipped in the port under the supervision of the Customs Administration or for which a transshipment certificate is produced, dues are paid only one way. For goods arriving by water from foreign places and forwarded unexamined overland to places abroad there are dues up to a max. of 60 öre per 100 kg.
For coal, coke, salt and oil the dues charged are as follows:

	Öre per 100 kg			
Type of goods	From foreign ports	From Swedish ports	To foreign ports	Trans-shipped
Coal and coke	9	9	5	9
Salt, rough, in lumps	8	4	10	4
Salt, other	18	8	10	8
Oil, fuel oil	15	15	14	10
petrol	60	60	14	10
petroleum	24	24	14	10

Special charges apply to the Free Port.

General Organization of the Harbour Administration

Financial and Secretarial Department

Accounting office

The Importance of the Port

The Port of Stockholm is of great importance for the entire economy of the Swedish capital; indeed it can be said that its trade idrectly depends on the port and its activities.

Today as always the wholesale trade of Stockholm is very extensive, especially the trade in metals, machines as well as textile wholesaling.

Stockholm and its environments form the largest industrial centre in Sweden. In the main the industries here are dependent on the Port of Stockholm for their supplies of raw material. Moreover, a very great part of their production is exproted to the markets of the world via the Port of Stockholm.

In conclusion it can be said that the port activities themselves amount to a major industry, which provides work for a large number of people. Thus the numbers of workmen and officials, dockers, customs officers and railway workers employed within the port total some 3,000. In addition, stevedores, forwarding agents, brokers and shippers and the like are all active in the Port of Stockholm.

Collection office

Purchasing office

Personnel office

Secretary's office

General Manager

Staff Organ

Technical Department

Method study office

Designing office

Construction office

Sheds and warehouses building office[2]

Engineering office

Machinery depot and shipyard office

Material testing laboratory

Staff Organ

General technical research and planning office

Engineering research and planning office[1]

Financial research and planning office

Traffic Department

Traffic office

Sub Harbour Master offices

Harbour Pilot office

Locks and bridges office

Crane control office[3]

1. Temporarily self-dependent office, later integral part of the General technical research and planning office.
2. Temporarily self-dependent office, later integral part of the Construction office.
3. For the present integral part of the Engineering office.

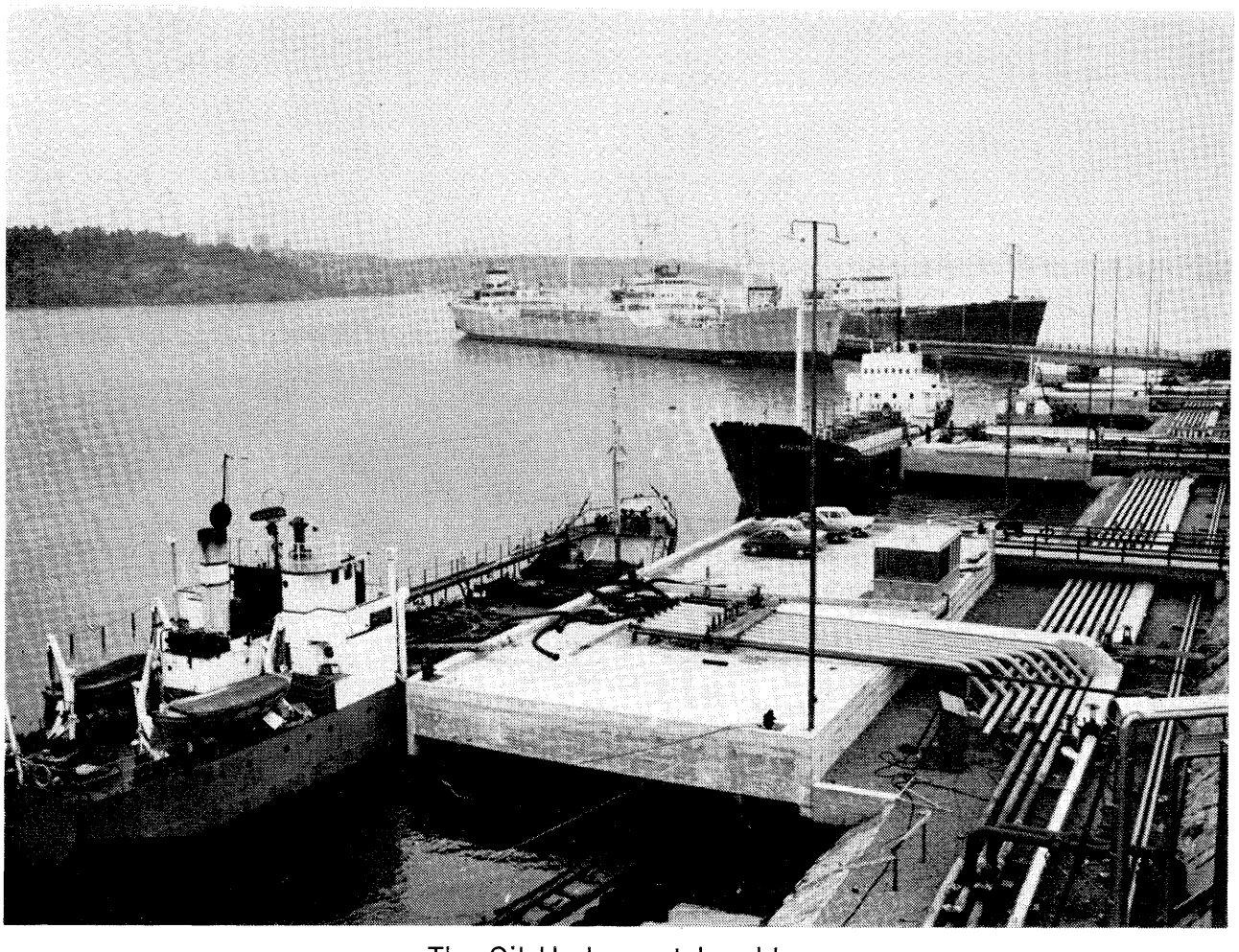
Distribution of goods except goods departed for inland destinations.¶

Article	Goods discharged				Goods departed for places abroad			
	1960	1961	1962	1963	1950	1961	1962	1963
Asphalt, cement gypsum and products thereof	399,456	381,096	381,780	432,917	558	108	691	1,122
Ore and stone	80,405	58,086	57,937	43,594	2,418	2,560	914	1,739
Machines, appliances and vehicles	93,347	83,561	85,856	87,204	60,591	74,203	87,829	74,109
Iron, steel and products thereof	325,979	274,010	242,657	205,507	56,862	41,557	36,426	65,742
Metals and products thereof	66,573	51,285	60,010	49,261	4,992	2,802	3,411	6,842
Mineal oils	1,670,677	1,562,478	1,596,737	1,667,823	51	11	2,061	1,139
Lubricants etc.	70,749	43,266	58,846	55,590	807	1,075	6,110	4,775
Cole, coke and briquettes	430,595	511,967	399,181	483,772	7	1	231	2,491
Foodstuffs and beverages	444,566	438,200	454,471	450,806	34,802	42,581	33,469	40,055
Fodder and fertilisers	65,678	59,419	62,580	66,531	95	232	1,337	429
Salt	35,724	38,961	52,659	45,701	–	2	1	10
Chemical raw materials and industry products etc.	45,146	43,362	35,222	31,675	3,220	3,074	2,672	3,880
Timber products	78,337	106,256	128,191	89,467	46,359	19,655	27,696	53,703
Pulp, paper and board	9,767	7,338	7,988	7,695	162,548	53,168	60,998	322,568
Sand, gravel, shingle, macadam, clay and lime	1,200,786	1,606,794	1,546,034	1,671,824	198	214	412	21,112
Other articles	145,071	125,921	145,857	159,315	31,635	29,757	25,742	32,861
Total (round figures)	5,163,000	5,392,000	5,316,000	5,549,000	405,000	271,000	290,000	633,000

¶) Goods departed for inland destinations are not subject to port dues why statistics of different articles are not available. The total figure of this traffic might be estimated at 460,000 tons in 1938, at 400,000 tons a year in 1948 and 1958-1962 and at 300,000 tons in 1963.

Vessel traffic

	Number				Tonnage n.r.t.			
Arrived, departed and called vessels ..	1960	1961	1962	1963	1960	1961	1962	1963
From or to places abroad	8,821	8,599	8,748	8,105	8,448,610	8,117,471	8,885,854	9,020,209
From and to places inland	31,110	33,242	30,905	28,114	3,120,447	3,424,866	3,263,896	3,345,489
Total (round figures)	39,900	41,800	39,700	36,200	11,569,000	11,542,000	12,150,000	12,366,000



The Oil Harbour at Loudden

Principal quays and harbours:

Quays and harbours	Berth numbers	Length of quay	Depth of water at mean water 13 ft from quay¶	Quay cranes¶¶		Warehouses, sheds etc.		Notes
				No.	Lifting capacity	No.	Kind	
		feet			tons			
On Baltic								
Standsgardshamnen	3-37	6,293	31 7-18 6	26	2.5- 7.5	4 4 1	Custom-buildings Sheds Warehouse	
Skeppsbrohamnen	1-13	1,870	20 2-18 0	4	5.0- 7.5	3	Custom-buildings	
Södra Blasieholmshamnen		902	11 10			1	Custom-buildings	
Nybrobamnen	1-10	1,539	18 6-10 4	1	5.0	2	Sheds	
Strandvägen	11-27	3,291	16 9- 8 8					
Gasverkskajen		909	29 6-19 2	3	10.0			Administered by the Gasworks
Värtahamnen	1-33	8,353	36 1-17 6	19	2.5-10.0			
Free Port Harbour	1-11, 21-30, 38-48	4,895	33 9-25 1	41	2.5-10.0	14 4 1	Sheds Warehouses Grain-silo building	
Oil harbour at Loudden	1-10	3,346	39 4-29 6					Shore with 8 loading jetties and 1 pier
Norra Hammarbyhmnen	1-44	5,545	21 0-11 11	21 1	3.0- 6.0 20.0	1 2	Custom-buildings Sheds	 Fixed crane
Södra Hammarbyhamnen	1-8, 10, 16-21, 23-27	4,341	21 0-13 1	6	4.0- 5.0			
Small wharves		498	19 0- 8 6					
Length of quays on the Baltic		41,732						
On Lake Mälar								
Riddaholmshamnen		230	13 1					
Norr Mälarstrand	1-13	2,441	21 0- 9 6			1	Sheds	
Söder Mälarstrand	10-26	3,772	14 9-13 1	5	2.5- 5.0			
Bällstahamnen		686	16 5-13 5					
Hornsbergsstrand		1,204	16 9-13 5	5	3.0- 6.0			
Arstadalshamnen	1-5, 7-9	1,614	22 8	3	5.0			
Hässelbyverkskajen		948	23 0-13 2					Administered by the Electricity Works
Small wharves and quays		1,887	19 8- 9 6					
Length of quays on Lake Mälar		12,782						
Total length of quays		54,564						
Principal private quays and wharves								
On Baltic								
Inside and close to the Port of Stockholm area		4,840	42 8-12 6					
On Lake Mälar								
Inside the Port of Stockholm area		3,035	22 0-13 1					

¶¶) Besides the quay cranes there are 6 pontoon cranes of 4-220 tons lifting capacity, the biggest one with own propelling machinery. The number of cranes is thus 141. In addition to these there are 14 cranes in private ownership.

¶) Different heights of the water referred to the Swedish State Measure Datum:

Water level			Baltic ft.	Baltic in.	Lake Malar ft.	Lake Malar in.
	highest observed	HHW	+ 2	6	+ 3	3
High water	normal	MHW	+ 1	6	+ 2	0
Lower water		MW	− 0	8	+ 0	10
Mean water	normal	MLW	− 2	0	± 0	0
	lowest observed	LLW	− 2	9	− 0	6

Port of Marseilles

By C. Barrillon

Director, Port of Marseilles

(Translated from French into English by the Central Secretariat)

Characteristic, Site and History

The main facilities are located in the harbor surrounded by 6 kilometer breakwater. Most of the docks and wharves were constructed to make a right angle with the coast which connects with the breakwater by two movable bridges. The size of docks is considerably limited as the breakwater had to be constructed fairly close to the coast on account of economic reasons because of the precipices along the coast. The two entrances to the harbor, north and south, ensure vessels' safe navigation into the harbor.

One century has not elapsed since the completion of the wharf structures where cargo vessels and mail boats berth at present.

This port was ancient Phocee and Latin Massilia and one of the great cities on the Mediterranean in 17th and 18th centuries. Until middle of 19th century, marine activities of this area was concentrated on the Old Port. Although the spacious water of the Old Port is only utilized for sight-seeing and fishing ground nowadays, this was the cradle of present port of Marseilles.

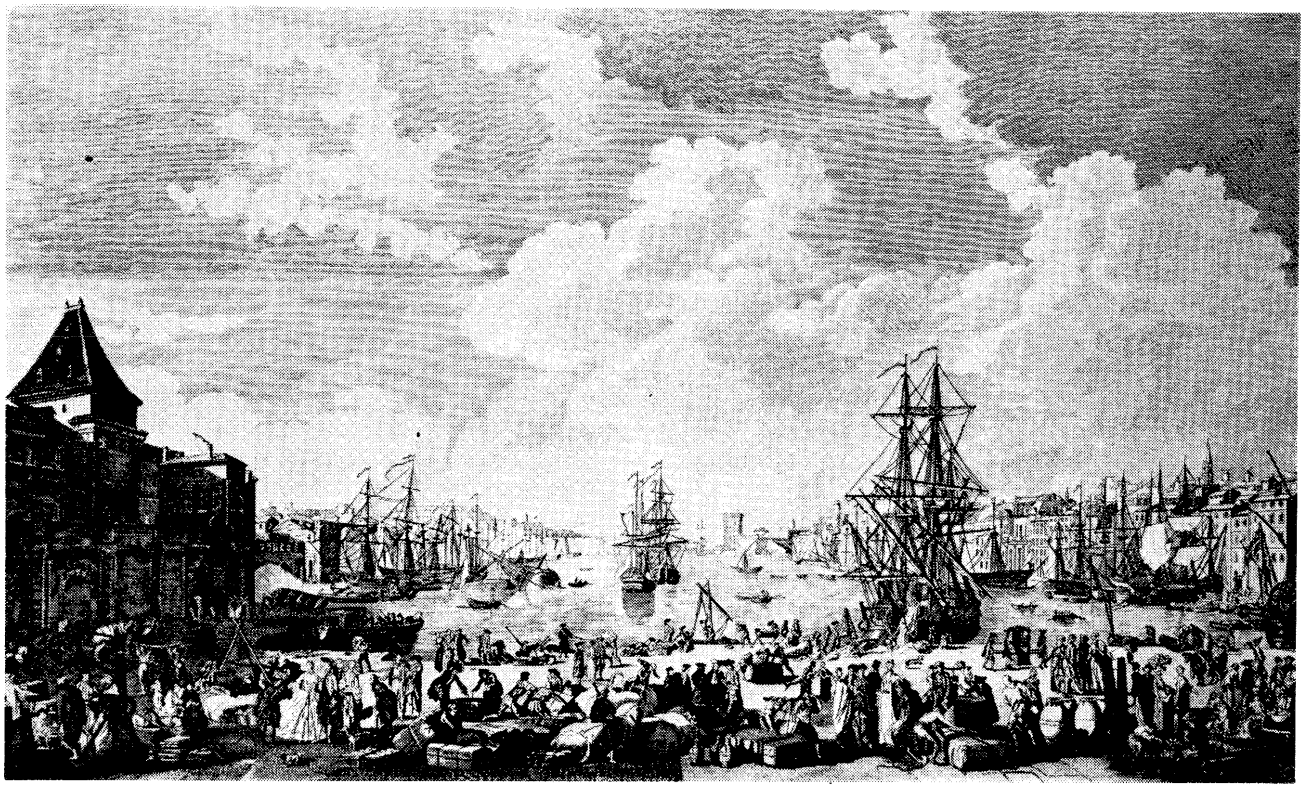
In 1820, over 4,000 vessels already entered to this port. To relieve congestion of the port, auxiliary dock La Joliette was constructed in 1884. This was origin of modern port of Marseilles. At first, there was only one wharf at La Joliette. However, before the outbreak of the World War II, several wharves were constructed with alteration of the entrance of the port and completion of breakwater to protect the new mouth of the port. Thus, the port has expanded to the south.

The constructoin of two docks, Le Lazaret and Arenc, started in 1860, almost at the same time of completion of the first La Joliette dock. These two docks were reconstructed later to make Grand Joliette dock with old La Joliette dock.

From that time, the undermentioned docks were planned and construction work started:—

La Gare Maritime Dock	
Le Bassin National	in 1865
La Pinede Dock	in 1900
President Wilson Dock	in 1918
Mirabeau Dock	in 1939

The construction of the last named dock has been delayed owing to the War and reconstruction of other part of the port, nevertheless, the work is now under way. In addition to the above, the great Mourepiane wharf is near to completion. A new repair dock and closing of north outer harbor by



Port of Marseilles in 18th Century

Birds-eye view of Port of Marseilles

Saumaty breakwater have recently been completed. Further, auchorage for oil tankers at the north outer harbor and a part of Central Wharf will be completed in a few years.

As aforesaid, this port gradually expanded from south to north during one century time. At present, total water area is 400 hectare and extension of wharves comes up to 27 kilometers. However, further development than present construction work cannot be hoped, as in the north of the port there lies the hill of L'Estague which is part of Nerthe mountain range. The hill has been an obstacle to railway and waterway for long time and port of Marseilles had been isolated from the rest of the province. It is true that this condition has assured port of Marseilles a certain protection, but at the same time this has been a drawback to the development of the port.

Such being the case, it is the most urgent issue to establish connection between water area of Marseilles and that of L'Etang de Berre also Port-de-Bouc area and le Golfe de Fas area.

By only this plan, development of port of Marseilles which was once considered impossible by the obstacle of L'Etague hills can be realized.

Since 1903 the project of constructing canal between Marseilles and leRhone has been recognized as a public utility service. The main part of this connecting waterway is the tunnel of leRove, 7 kilometers long, 22 meters wide and 4 meters deep.

In 1919, construction of President Wilson Dock was decided. At the same time, gradual improvement of facilities for navigation between Port-de-Bouc/des Etangs de Coronte/de Berre was authorized by law.

Thus, L'Etang de Berre area was connected with the sea through the canal. Later, several tributary channels were completed keeping in step with increase of number of calling vessels.

It is noteworthy that people concerned had foresight and aspiration for enterprise in spite of heavy expenses for completion of facilities for navigating waterway. These facilities much encouraged advancement of petroleum industry at Lavera and L'Etang de Berre since 1930. At present, Lavera petroleum dock at Port-de-Bouc is one of the largest centers for unloading petroleum.

There are two private wharves connecting to refineries of Shell at L'Etang de Berre and C.F.R., on the other hand C.F.R. and B. F. refineries are directly connected with Lavera petroleum dock. All refineries are connected with port of Lavera by pipe lines and from this port pipe lines running to eastern France and southern Germany to feed the refineries there.

All industries and marine transportation at Masseilles and its auxiliary port cannot be considered independently from port of St.

Loius. Golfe de Fas is the new area appropriated to the two ports for future development.

Particulars of Facilities

In case Marseilles, the coast is cliffy similar to other ports on the Mediterranean, therefore, back ground of the wharves is considerably limited and condition for constructing railway and road is very unfavorable.

The draft along the great breakwater, called Digue du Large, was 6 meters when it was first constructed, but later deepened to 35-40 meters. The 5 kilometer long breakwaters with inclined sides were gradually reconstructed due to improvement of stone pit machines and modernization of constructing technique. After 1930, all breakwaters were constructed with vertical sides. The foundation stone and block under water were replaced by 11 meter wide brick wall of assembled block to be fitted vertically at - 14 meters deep, thus wharves could be placed on the solid ground.

At the first, concrete pieces were used, then combined artificial small blocks of 25 – 50 tons and large wharf made of compressed air concrete, at last stage, by honeycombed caisson carried on the sea and sunk on the spot. After 1940, wharves constructed by 100 ton, 200 ton or 450 ton large block are actually in use. Nowadays combining system of block has become an important economic factor of wharf construction. The methods of lifting and placing material into the position have been considerably improved reducing the cost of expenses. There is no doubt that this method of construction is most suitable and economical for the port of Marseilles. On the other hand, it is more difficult at the auxiliary port due to the nature of its bottom. At petroleum Lavera, metal baskets and Wharf constructed by combined blocks are being used.

The new type cranes at the Wharf

In the waterway of Port-de-Bouc, there was a rocky bed of – 6.00 meter draft, however anchorage of – 9.00 meters deep was completed by using rock drill during the period between the World War I and II. At present, the port allows entrance of vessels drawing 44 ft. draft. Deepening water to – 14.63 meters is the result of efforts for 15 years. Limestone in the waterway was removed by means of pneumatic drill and blasting with dynamite.

Recent construction works at Marseilles were No. 8 and No. 9 repairing dry docks. They have been in use since 1961 and make up for the number and insufficient capacity of the 7 old repairing docks. Moreover, these two new docks consist main part of the most modernized repairing dock at Marseilles.

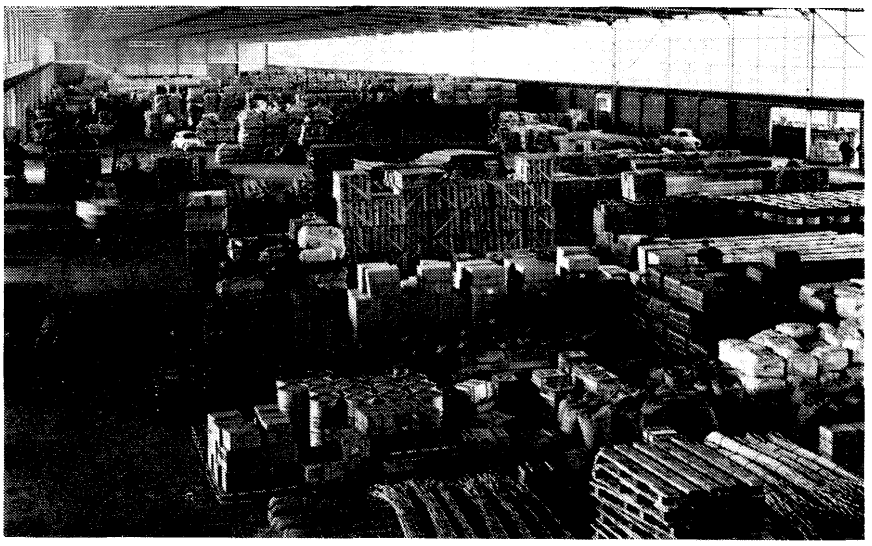
Since World War II, a great improvement has been made in the institution of cranes. There is not a single hydraulic crane among 180 cranes now in use, but only a few cranes equipped with direct current motor are remaining.

Improvement of sheds area is conspicuous: many pillars in the sheds were removed to allow free movements of cargo handling machines and easy entry of goods, leaving 50 meters space between pillars.

Transportation

Generally speaking, all ports should have accommodation to cope with inevitable changes in carrying out required service. The demand on transportation changes according to fluctuation of economic and political status. It is clear, therefore, flexibility in management of a port is one of the most important factors.

Based on the above principle, the institution of the port of Marseilles is comprised in two years:– (1) Special institution planned to deve-



Shed No. 20, 320 m x 50 m

lop the highest efficiency in loading/unloading of special cargo (cereals, chickens, oils, hydric carbide, wines, vegetable oil) (2) Other institution of multilateral purposes for loading/unloading of various cargo.

Since the mission of this port being transportation of general cargo, only 14 areas are for special cargo and the rest of 71 are for general cargo among 85 areas appropriated for overseas trade.

The main shipping lines operating from this port areas follows:—

In the coastwise trade, some 200,000 tons cargo and some 100,000 passengers move annually for Corsica. The vessels of C.G.T. (Compagnie General Transatlantique) call La Joliette requlary. Vessels of special type are used for carriage of cars, and rather small vessels suitable to Corsican ports are berthed on this run.

The most part of dry-cargo is shipped via Marseilles for Algeria, Tunis and Morocco. In the year 1962, 35% of such cargo was shipped for these districts. Vessels of C.G.T., Compagnie Mixte and Compagnie Paquet regularly serve these routes. 15 of fast ships with adequate equipments are being placed on these routes at present. Although definite future prospects of the routes is unknown at the moment, it is possible that the routes may flourish through tourism on the Mediterranean sea. Besides the aforesaid 15 regular boats, a cargo fleet consisting of 25 vessels of 2,000/3,000 tons each efficiently serve these lines for carriage of fresh food and manufactured goods.

Regular passenger and cargo boats sail from Marseilles for Algeria and Tunis 2/3 times per week, while cargo vessels sail weekly and often call at many ports on French and African coasts. These cargo boats enter into the south area of Marseilles where spacious sheds are available for handling, selecting and transaction of about 500,000 tons fresh fruits, etc., per annum.

There is only one country of French possession on the west coast of Africa. The service between here and Marseilles is maintained by two shipping companies, Compagnie Paquet and Compagnie Traissinet-Fabre. Three large passenger and cargo boats, "Mermoz", Mangin" and "Foch", call as far as Douala. Cargo boats are facing with keen competitions of Italian and Scandinavian vessels.

Ships on the west African line carry Food Stuff, Textiles, Machinery, Cars, etc. on outward voyage and load Bananas, Peanuts, Betel-Nuts, Coffee and Lumber on homeward voyage. These vessels enter into the center of the port, viz., Bassin Mirabeau and Bassin National. Banana boats and ships with large quantity of Peanuts usually berth at the designated area where special facilities are available.

In the east Mediterranean, two French lines, viz., Compagnie Daher (for Arab countries) and Compagnie Francaise de Navigation (for Israel) are doing very brisk business.

Countries on the Mediterranean – Turkey, Greece, Italy, Tunis, Egypt and Spain, are operating their own merchant fleets calling at Marseilles 2/3 times per month. Some of the regular boats are passenger and cargo boats of over 5,000 tons, while cargo boats are of 2,000/3,000 tons. Unloading of these vessels, except those with large quantity of Cirtons, Vegetables and Fruits, is effected at Bassin Mirabeau or south area where spacious sheds are available.

With regard to shipping for the areas beyond Suez Canal, that for Madacascar is very active. Regular vessels of large type belonging to M.M., NOCHAP and S.E.A. are being berthed on this route. Most of the vessels load full cargo at North Sea ports and come down to the south and return home with Sugar as part cargo during the season. Marseilles is an important calling port for these vessels.

Large vessels for the Far East sail from the north to the south and call at Persian Gulf, India, Indo-China, Japan, Indonesia, Australia, New Zealand and islands in the Pacific.

French vessels on these routes are represented by M. M. Line. Facilities in Marseilles for M. M's exclusive use is situated in north of Bassin President Wilson.

Foreign vessels very frequently call at Marseilles. They call at Marseilles and Genoa from Gibraltar en route Suez Canal. Thus, this port receive large vessels of Scandinavia, Netherlands and Britain. This port offer them wharves with deepest draft and perfect facilities at Bassin President Wilson and Bassin Mirabean. By these vessels, industrial products are exported from Marseilles and Vegetable Seeds, Raw Wool, Copra, Rice, Tobacco, etc. are imported. Moreover, this port receives large regular vessels of Britain's P. & O.

Aspect of South American lines had changed these several years as far as Marseilles is concerned: large sized boats which called at this port before do not call recently. Only exception is m. s. "Provence", but she sails from Genoa.

On the contrary, cargo movements by French owned vessels on Europe-South Atlantic route, and

by many foreign ships of Greece, Sweden, Spain, Italy, Jugoslavia, Brazil and Argentina are increasing.

Cocoa, Coffee, Sesame and Fruits are main unloading cargo at Marseilles, while many kinds of cargoes being shipped.

We have been in a close relation with West Indies. Sugar from West Indies still remain premier cargo by Transports Maritimes a Vapeur. For North America, cargo boats of Armement Fraissinet-Fabre (French owned) sail from Marseilles with many years' tradition. Besides this line, brisk regular sailings by Jugoslavia-West Indies and Italy-U.S.A. are maintained from this port.

Cargo vessels belonging to the two large steamship companies, American President Line and American Export Line, are among the most modern vessels which call at Marseilles.

As aforesaid, vessels from all corners of the world call at Marseilles and number reaches 9,000 yearly of which French accounts for 60%. At the same time, foreign ships occupy an important part of the "Clients" of Marseilles. In 1962, over 3,500 foreign ships called at this port.

The number of vessels berthing at the auxiliary port is smaller than that of Marseilles proper: In 1962, 1900 vessels berthed. However, their tonnage is much larger than those berthed at Marseilles proper. This is due to special nature of cargo handled at the auxiliary port.

Vessels of heavy deadweight call at auxiliary port. If the amount of cargo unloaded at the auxiliary port is converted into measurement ton, it will reach 10 times of that of unloaded at Marseilles proper. The operation system of these vessels is quite different from ordinary cargo ships. They are not operated as regular vessels. Sometimes a vessel runs twice on the same route consecutively.

However, shipping ports of these primary products are constant. Crude Oil is shipped from Persian Gulf, Syria, Lebanon, Liberia, Tunis and Algeria, and Phosphate is shipped from Tunis or Algeria.

Loading ports of Chrome Ore, Manganese Ore, Zinc Ore and Iron Ore vary like Vegetable Oil Seeds.

Tankers sail from the auxiliary port with Refined Oil mainly for Mediterranean ports and at times for North Europe.

IV Port Administration

As handling of general cargo is a distinctive feature of Marseilles, special consideration is being given to efficient and speedy cargo work. Effective operation of cargo work is essential for development of trade. The cargo work at this port is beeing carried out by 10 contractors. These enterprises are being attended by powerful staff consisting of regular administrative personnel. These contractors select required number of laborers from 3,500 professional port laborers. There are about 5,000 personnel directly connected with cargo work, excepting administrating officers. Number of personnel employed appears to be larger than that of other ports, however, it is considered natural in the operation where speed, care and technical skill required in assorting and delivery of cargo which is part of routine of carriage.

Marseilles is a premier market for Fruits, Vegetables, Coffee, Cocoa, Raw Wool, Raw Cotton, Lumber, etc. and business transactions is carried out here smoothly.

The cargo work enterprise offers automatic cranes, chariots elevateurs, moto-rampes, etc. and Marseilles ranks the first among French ports in regard to automation of cargo machinery. Number of Elevateurs a fourches has increased from 379 to 500 in the past 3 years.

There are efficient facilities for unloading bulk cargo, especially for cereals in bulk, i. e., two silos of 40,000 tons and 20,000 tons capacity with unloading capacity of 250 tons per honr.

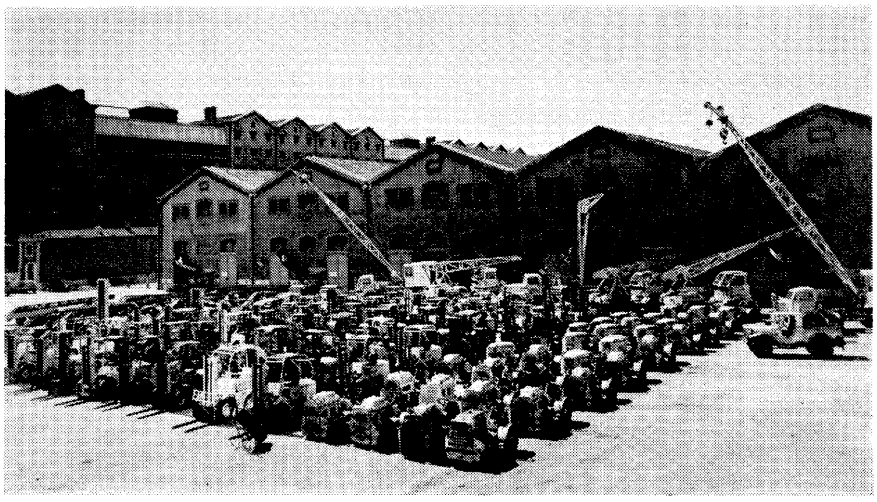
Alumina: Two concerns, Pechiney and Ugine have special type of silo which disposed 200,000 tons in 1962. Marseilles ranks the first among the European ports.

Importers can utilize special facilities for storage of Vegetable Oil and Wine. Besides these, there are greatly enlarged tanks for Crude Oil at the auxiliary port. At Lavera, pipes of 80 c.m. diameter are laid in the all area through which each refineries and large tanks of South Europe Pipe Line are fed with adequate Crude Oil. Storage capacity of the tanks is one million cubic meters.

V Ship Repairs

Marseilles has been the home port for Franch merchant marine, consequently, always has been centre of ship repairs. The 7 repairing platforms arranged around the repairing docks were main facilities of repairing activity until 1950. However, number of vessels calling at Marseilles began to decrease after Indo-China War, therefore ship repairing business was mostly directed towards French tankers, then foreign customers.

In order to assist multiplied ship repair activity and to help part of changed management, the Chamber of Commerce of Marseilles succeeded in hiring a 40,000 ton dock from



A group of cargo handling machines

French Navy and it has been in use since 1950. Utilization of ship repair facilities increased rapidly, while number of ships used drydocks did not show much increase: 670 vessels in 1962 against 546 vessels in 1954, but tonnage of repair ship increased considerably: in 1962, it was recorded 4,058,000 gross tons against 2,555,000 gross tons in 1954.

If port authorities refused payment of great expenses for constructing docks enabling repair of large tankers, the port would not be able to offer ships such services as aforesaid. The second floating dock was acquired in 1959 supplementing the first one. These two great repairing girds of each 320 meters and 250 meters in length made ship repairing facilities of this port perfect. Besides the above, a project of making the whole of the great breakwater at Digue de Large as ship repair facilities is being considered.

The ship repair enterprise at Marseilles employs about 6,000 persons excepting contractors.

VI Position of Marseilles in the state economy and prospects in future

The Port of Marseilles handles 27,500,000 tons of cargo and 1,-750,000 passengers per year, viz., the most important part of 103,-000,000 tons of cargo and 6,000,-000 passengers handled in the whole France. It is expected that cargo will reach over 34,000,000 tons in 1963.

Marseilles is the centre of French shipping dealing with half of regular passenger boarts and one fourth of the cargo boats.

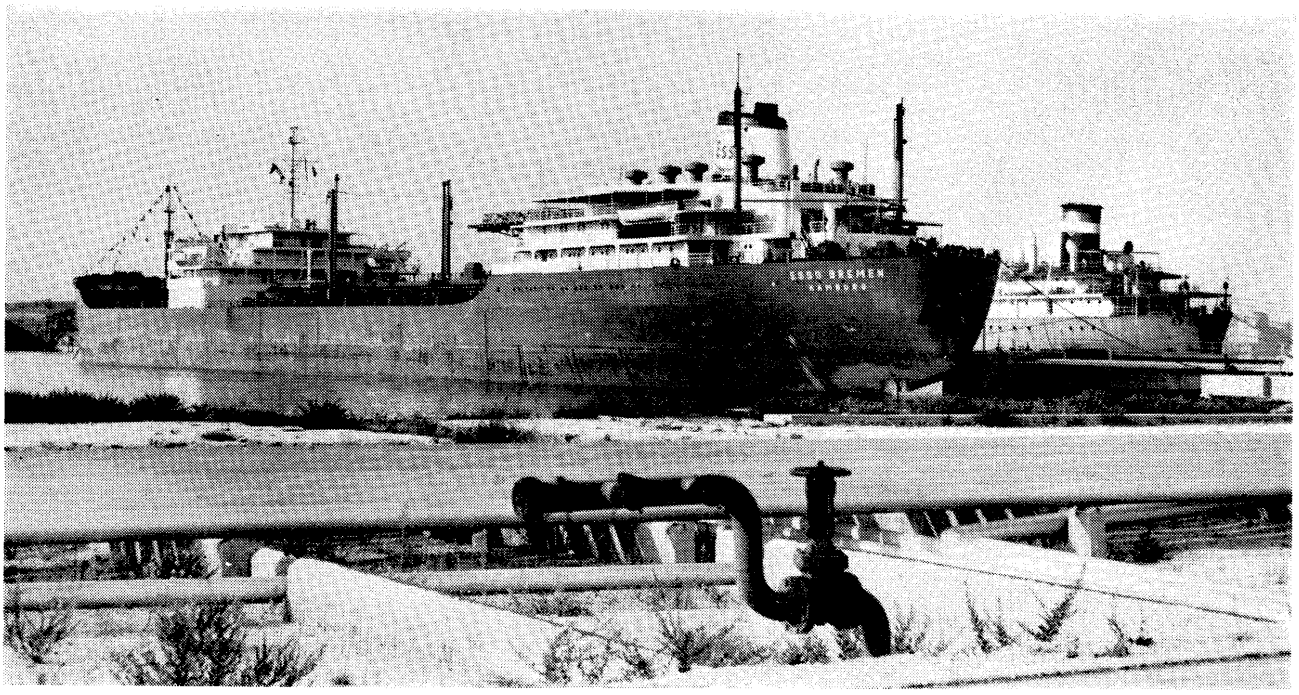
Over 10,000 persons are being employed by the Port Administration and Ship Repair enterprise. If we add personnel connecting to transhipment, land transportation, loading, food supplying, etc., the total number will reach a considerable figure. These several figures well explain the importance of all activities concentrated on this port.

With regard to passenger business, it is true that the business in this line is declining. For many years in the past, port has been the front door of Europe for North Africa, Indo-China, Madacascar and West Africa. However, this position has been shaken due to the development of politics and increase of traffic by air, nevertheless, part of sea transportation may still remain active which cannot be ignored. This port will continue to play important role in carrying tourists, motor-cars and baggages on account of low passage fare and freight. Passenger traffic between Marseilles and Corsica will be busy during 'vacance' season. Sea cruise will attract many passengers in future.

The major industries of this district is being kept by imported primary products. The flour mills import wheat from North Africa. The output of flour by the mills in Marseilles district reaches over 70% of that of whole country.

Marseilles is centre of Oil and Fat industry. Raw materials such as Peanuts, Copra, Betel-Nuts, etc. are imported from abroad.

The new repairing docks, No. 8 and 9



Petroleum Pier at Lavena

Saint-Louis Sugar Refinery Co. which produces 25% of refined sugar in France is supplied with cane sugar from Reunion and West Indies.

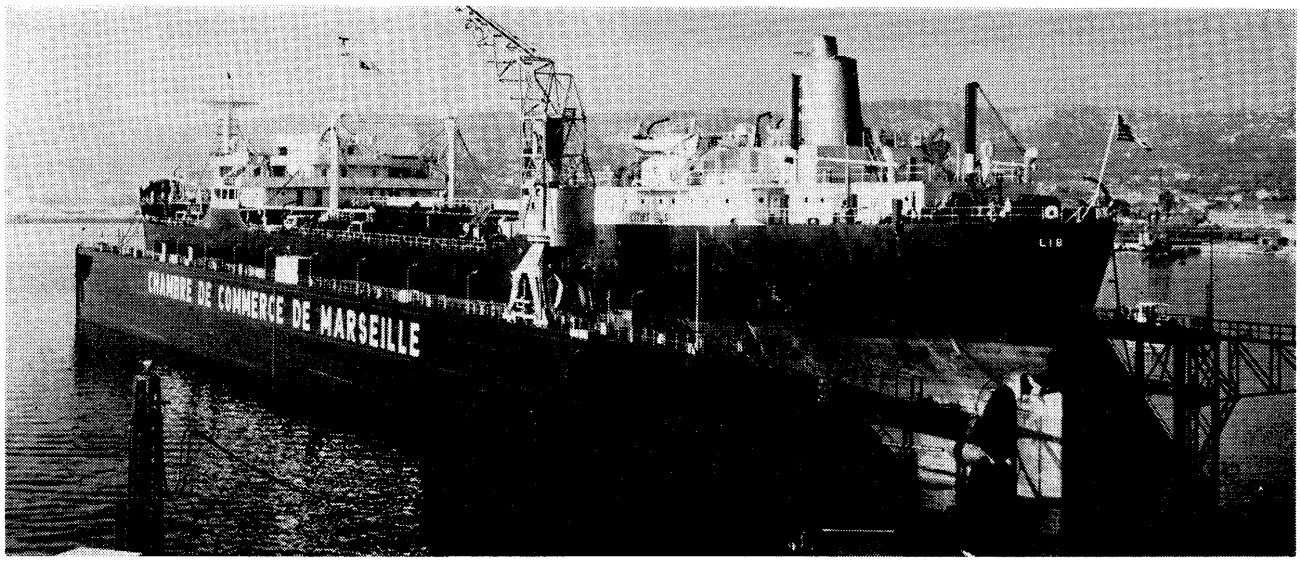
The woolen manufacturing industries at Castres-Mazamet rely on Raw Wool from Australia and Argentina imported through port of Marseilles.

The rubber manufacturers import Crude Rubber from Malaysia, Indo-China and Indonesia via Marseilles.

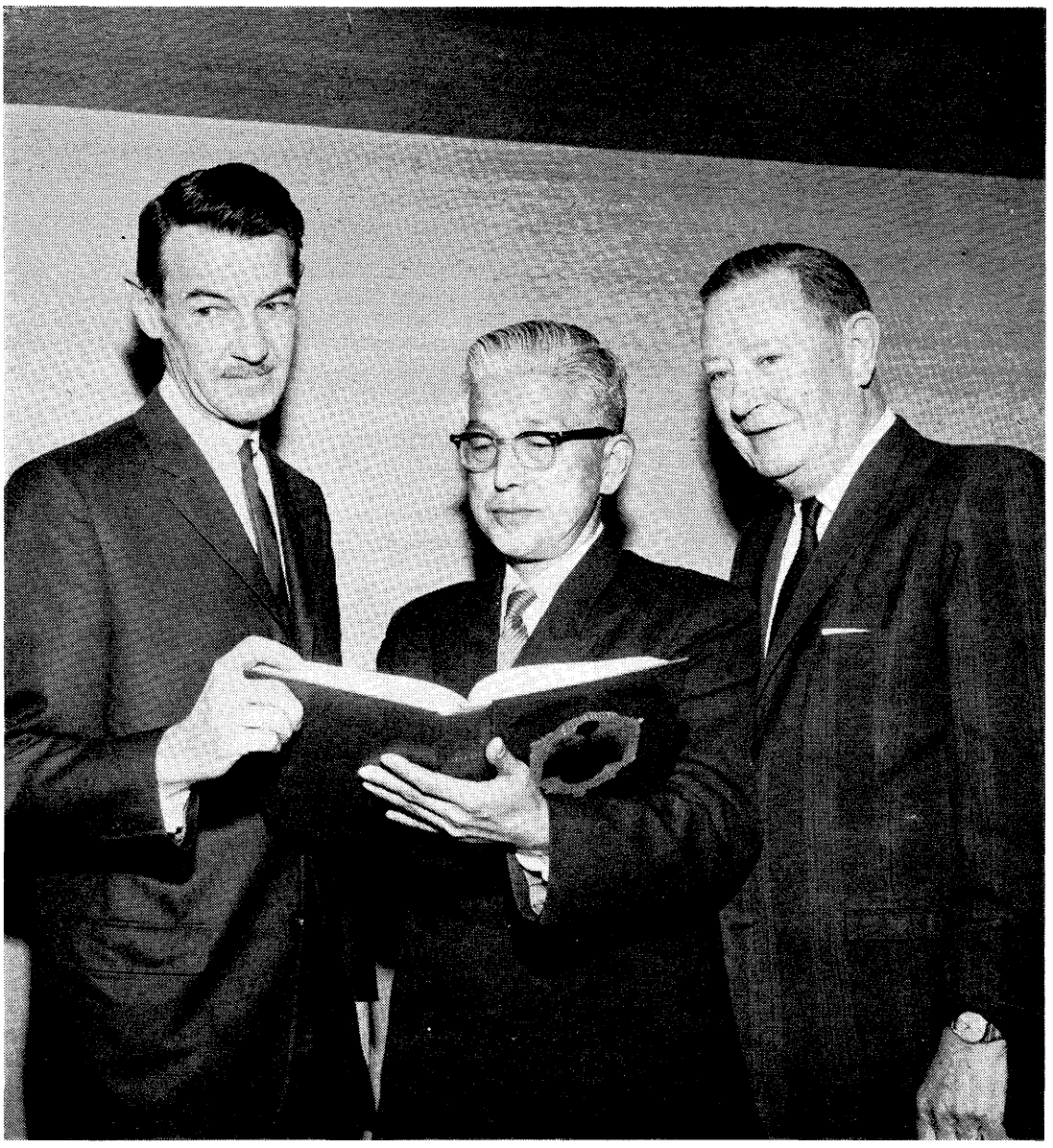
Raw Cotton is carried from Syria, Egypt and Sudan in order to supply the cotton mills at Vosages and Alsace with material.

Finally, Marseilles ranks first in import of Crude Oil handling 40% of Crude Oil consumed in this country. On the other hand, this port gradually started to meet the demand of Crude Oil at West and South Germany.

It is expected that over 540,000 tons Crude Oil will be imported for 10/12 refineries in coming four years.



40,000-ton Floating Dock



Port of Oakland's new representative in Japan, Shoichi Kuwata, with Edward G. Brown (left), president, Oakland Board of Port Commissioners, and A. E. McIntyre (right), co-chairman, Maritime Commerce Committee, Oakland Chamber of Commerce.

The Port of Oakland appoints a representative in Japan

The Port of Oakland's new representative in Japan is in the East Bay for a five-week's study of the Port's plans for promotion and development prior to establishing his office in Tokyo.

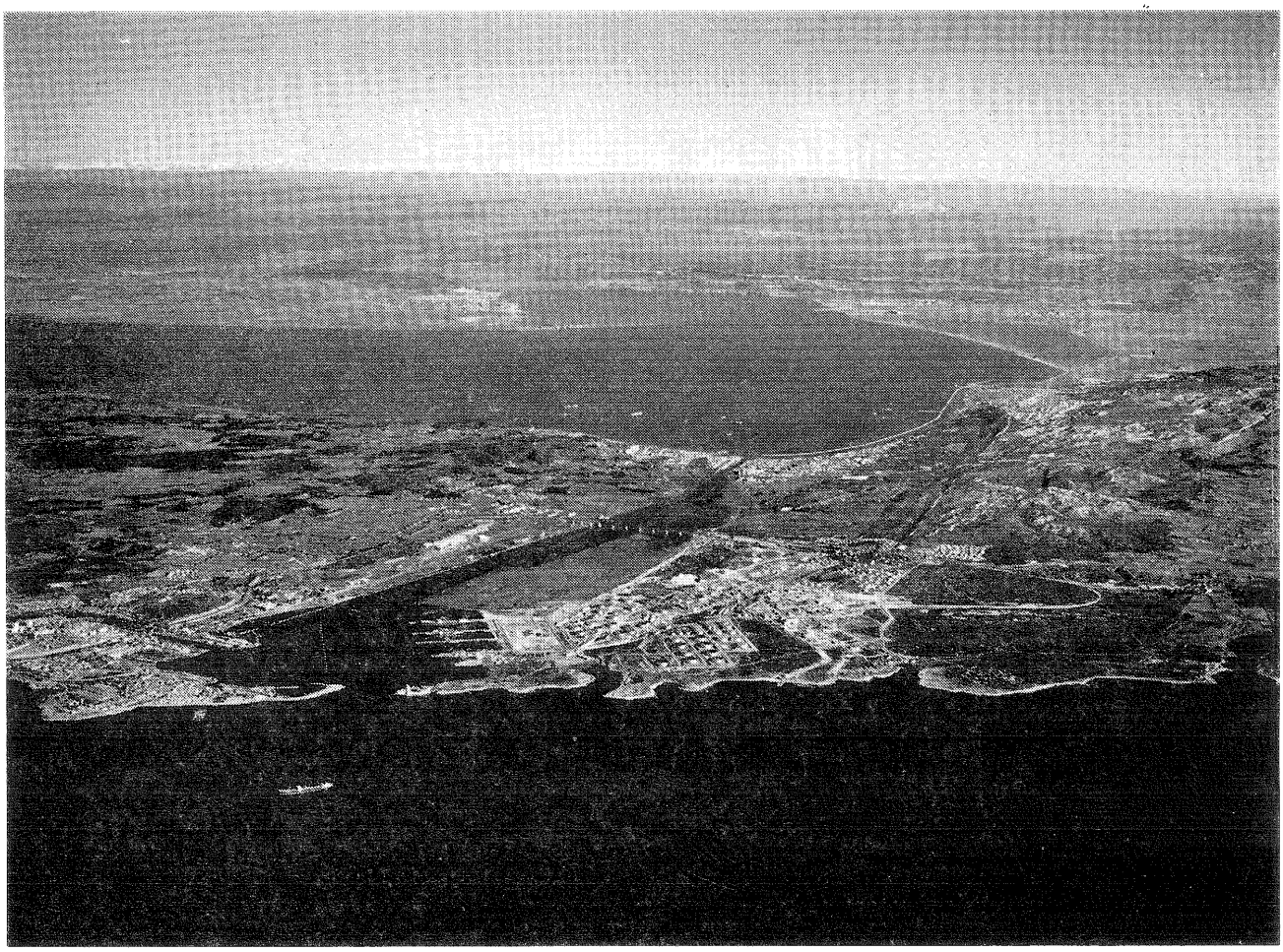
Shoichi Kuwata, a veteran steamship executive, will familiarize himself with Okland Port facilities and, according to Port officials, is available to local businessmen who are interested in Japan as a possible market for their products.

Mr. Kuwata has many year's of experience both in the United States and in Japan in matters relating to the growing commerce between our two countries and should be of assistance to Bay Area businesses interested in foreign trade.

Mr. Kuwata's selection follows a trade trip to Japan last month by Port President Edward G. Brown and Ben E. Nutter, Port executive director.

(Continued from Page 2)

Malaysia	Mr. Goh Koh Pui, P.P.A. Chairman Port of Singapore Authority Singapore	Mr. Dato Laksmana Haji Mohamed Razalli bin Haji Mohamed Aii Wasi, S.P.M.P., J.M.N., P.J.K., J.P. Chairman Penang Port Commission Penang
Mexico	Ing. Daniel Ocampo Siguenza Residential Engineer of Port Construction, Villahermosa, Tabasco	Ing. Mario E. Villanueva Reyes Residental Engineer of Port Construction, Coatzacoalcos, Ver.
Netherlands	Ir. F. Posthuma Managing Director Port of Rotterdam	Ir. J. den Toom Managing Director Port of Amsterdam
Pakistan	Mr. I. A. Abbasi, S.Q.A. Chairman Karachi Port Trust	Mr. R. D. Kabraji Deputy Traffic Manager Karachi Port Trust
Peru	Mr. Mateo Kalafatovich Director Bureau of Port Administration Peruvian Government Lima	Mr. Rene Guevara Mechanical Engineer Bureau of Port Administration Peruvian Government Lima
Phillippines	Mr. Florencio Moreno Secretary, Dept. of Public Works & Communications Manila	Col. Julian C. Chaves General Manager Manila Port Service Manila
Sweden	Mr. John Iwar Dahlin General Manager Port of Helsingborg	
Thailand	Maj. General Prachuab Suntrangkoon Director Port Authority of Thailand	Capt. Lapo Israngkura, R.T.N. Deputy Director (Operations) Port Authority of Thailand
U.A.R.	Dr. Eng. Aladin Fateen Assistant Director Technical Department Suez Canal Authority Ismailia, Egypt	Eng. Ibrahim Abdel Aziz Chief, Portsaid Works Section Suez Canal Authority Ismailia, Egypt
United Kingdom	Mr. Dudley Perkins General Manager Port of London Authority	Sir Arthur Kirby, K.B.E., C.M.G. Chairman British Transport Docks Board
U.S.A.	Dr. Joseph D. Carrabino Commissioner Board of Harbor Commissioners City of Los Angeles	Mr. Rae F. Watts Port Director San Francisco Port Authority
	Mr. Albert Lyle King Director of Marine Terminals Port of New York Authority	Mr. W. J. Amoss Director of the Port Board of Commissioners of Port of New Orleans
Venezuela	Dr. Andres German Otero Ministro de Hacienda Ministerio de Hacienda Caracas	Sr. Cesar Bustamante Administrador General de los Servicios Portuarios Nacionales Ministerio de Hacienda Caracas
Vietnam	Mr. Nguyen Van Chieu Director Directorate of Saigon Port	Mr. Nguyen Ngoc Du Director Port of Da-Nang



The auxiliary port and Berre, Marseilles.

General view of top table:
Opening Ceremony →

Central Secretariat of the International Association of Ports and Harbors

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Chiyoda-ku, Tokyo, Japan