

# Contents

1	Introduction	15
	<i>Marcel van der Linden, Hugh Murphy, and Raquel Varela</i>	

## North-western Europe

2	Labour in the British shipbuilding and ship repairing industries in the twentieth century	47
	<i>Hugh Murphy</i>	
3	Bremer Vulkan	117
	A case study of the West German shipbuilding industry and its narratives in the second half of the twentieth century	
	<i>Johanna Wolf</i>	
4	From boom to bust	143
	Kockums, Malmö (Sweden), 1950-1986	
	<i>Tobias Karlsson</i>	
5	The Norwegian shipbuilding industry after 1945	165
	Production systems, rationalisation, and labour relations, with special reference to Bergens Mekaniske Verksteder and Aker Stord	
	<i>Hans-Jakob Ågotnes and Jan Heiret</i>	
6	From war reparations to luxury cruise liners	193
	Production changes and labour relations at the Turku shipyard (Finland) between 1950 and 2010	
	<i>Kari Teräs</i>	
7	The Dutch shipbuilding industry, 1950-2012	221
	<i>Sjaak van der Velden</i>	

## Southern and Eastern Europe

- 8 Always on the verge of sinking 249  
Labour and production in the Sestri Ponente shipyard, Genoa (Italy),  
1950-2014  
*Giulia Strippoli, Davide Tabor, and Luciano Villani*
- 9 Work, workers, and labour conflicts in the shipyard Bazán/  
Navantia-Ferrol, Galicia (Spain), 1950-2014 281  
*José Gómez Alén*
- 10 Against market rules 305  
A Spanish shipyard nobody wanted (except workers)  
*Rubén Vega García*
- 11 Labour relations in a Portuguese shipyard 319  
The case of Setenave  
*Jorge Fontes*
- 12 Work in the Portuguese shipyards of Lisnave 339  
From the right to work to precariousness of employment  
*Raquel Varela and Ana Rajado*
- 13 The Gdańsk Shipyard 365  
Production regime and workers' conflicts in the 1970s and 1980s in  
the People's Republic of Poland\*  
*Sarah Graber Majchrzak*
- 14 The shipbuilding industry in Galați (Romania) under  
communism, 1948-1989 397  
*Constantin Ardeleanu*

## The Americas and Australia

- 15 Charting a new course 421  
US shipbuilding labour, 1950-2014  
*Robin Dearmon Muhammad*

- |    |   |     |
|----|---|-----|
| 16 | The Argentinean shipbuilding industry<br>Workers' struggles in a state shipyard<br><i>Cintia Russo</i>  | 437 |
| 17 | Production and labour of a state-owned enterprise<br>A case study of an Argentinean shipyard, Astillero Río Santiago<br><i>Juliana Frassa</i>   | 457 |
| 18 | Labour in the Brazilian shipbuilding industry<br>A contribution to an analysis of the recovery period<br><i>Claudiana Guedes de Jesus</i>   | 477 |
| 19 | Brazilian shipbuilding and workers between tradition and<br>innovation<br>Shipyards Caneco/Rio Nave and Mauá – Rio de Janeiro, 1950-2014<br><i>Elina G. da Fonte Pessanha and Luisa Barbosa Pereira</i> | 491 |
| 20 | Cockatoo Island, Australia<br>Industry, labour, and protest culture<br><i>Lisa Milner</i>   | 519 |

## Asia

- |    |   |     |
|----|---|-----|
| 21 | Evolution and development of the shipbuilding industry in<br>Bharati Shipyard Ltd, Maharashtra (India), from the 1970s to 2010<br>Employer, employee, and production perspectives<br><i>S.M. Fahimuddin Pasha</i> | 547 |
| 22 | Shipbuilding and shipbuilders in Thailand<br><i>Nicola Mocci</i>  | 563 |
| 23 | The lower labour market and the development of the post-war<br>Japanese shipbuilding industry<br><i>Takeshi Haraguchi and Kazuya Sakurada</i>   | 591 |
| 24 | The evolution of labour relations in the South Korean<br>shipbuilding industry<br>A case study of Hanjin Heavy Industries, 1950-2014<br><i>Wonchul Shin</i>   | 615 |

25	China, Philippines, Singapore, Taiwan, and Vietnam <i>Hugh Murphy</i>	637
26	Some final observations <i>Hugh Murphy and Marcel van der Linden</i>	657
	Appendix 1: The effects of the oil price shocks on shipbuilding in the 1970s <i>Hugh Murphy and Stig Tenold</i>	665
	Appendix 2: Shipbuilding in 2013: an analysis of shipbuilding statistics <i>Victoria Culkin</i>	675
	Glossary of shipping and shipbuilding terms	683
	Collective bibliography	699
	Notes on contributors	731
	Index	741

## List of figures and tables

### Figures

Figure 4.1	Total workforce, blue-collar and white-collar, at Kockums, 1950-1980	148
Figure 4.2	Tankers, cargo ships and bulk carriers as a percent- age of ships produced at Kockums, 1950-1987	150
Figure 7.1	Production, Dutch shipbuilding industry, 1951-1986 (1951=100; in mn 1951 guilders)	222
Figure 7.2	Total production, Dutch shipbuilding: building and repair, 1950-1972 (in mn 1951 guilders)	223
Figure 7.3	Wages in the Dutch shipbuilding industry, 1952-1986 (1952=100)	228

Figure 7.4	Number of strikes in the Dutch shipbuilding industry, 1950-2013	233
Figure 7.5	Number of strikers and number of strike-days, 1950-2008	235
Figure 12.1	Average age level (calculation) by year, 1986-2008	352
Figure 12.2	Outflow of workers by year, 1986-2007 (retirement because of disability, old age, or early retirement)	353
Figure 12.3	Average number of workers by year, 1986-2008	353
Figure 12.4	Man-hours not worked due to internal unemployment, 1986-2008	354
Figure 12.5	Hours not worked on production (vocational training), 1991-2008	354
Figure 12.6	Profits, salaries and number of workers, 1997-2008	355
Figure 12.7	Wages and total social support, 1997-2008	355
Figure 12.8	Man-hours not worked per strike, 1987-2008	356
Figure 12.9	Salaries and strikes, 1997-2008	356
Figure 12.10	Total number of permanent workers, 1969-2007	357
Figure 12.11	Fixed-term contracts, 1997-2008	357
Figure 12.12	Hourly productivity, 1997-2008	358
Figure 12.13	Permanent workers and unionised permanent workers, 1980-1996	359
Figure 12.14	Percentage of unionised workers, 1980-1996	359
Figure 16.1	Sales and assets, TANDANOR/CINAR (in millions of current dollars)	451
Figure 16.2	Daily wage according to category and speciality (Argentine pesos)	453
Figure 16.3	Employment in TANDANOR/CINAR, 1970-2010	454
Figure 17.1	Employment in Astillero Rio Santiago, 1971-2012	463
Figure 18.1	The number of jobs in the Brazilian shipbuilding industry, 1995-2013	478
Figure 18.2	Jobs in the Brazilian shipbuilding industry in Rio de Janeiro state, 1995-2013	479
Figure 21.1	Location of BSL shipyards in Maharashtra region	554
Figure 23.1	Locations of shipyards in Japan, 2010	593

Figure 23.2	New ship construction permissions, 1948-1970	596
Figure 23.3	Investment in facilities by major shipbuilding companies	597
Figure 23.4	Structure of large Japanese companies	598
Figure 23.5	Steel ship construction results (completed tonnage)	601
Figure 23.6	Number of berths/docks by capacity	602
Figure 23.7	Numbers of shipyard labourers in 1950s Japan	604
Figure 23.8	Model of labour-force composition in Japan	606
Figure 23.9	Numbers of shipyard labourers in Japan from 1970 on	607
Figure 23.10	Locations of the Kizugawa Shipbuilding companies and Kamagasaki	610
Figure 23.11	Numbers of job offers for day labourers in Kamagasaki	611
Figure A.1.1	Average size of existing tankers, deliveries and orderbook 1963-1981 (1000 dwt)	666
Figure A.1.2	Crude oil transport demand 1963-1985 (bn ton-miles)	667
Figure A.1.3	New orders (seven-year average) and deliveries 1966-1988 (mn dwt)	669
Figure A.2.1	Completions, 1991-2013 by gross tonnage	676

## Tables

Table 1.1	World shipbuilding market share in terms of construction volume (in percentages)	20
Table 1.2	Average industrial wages and labour productivity in East Asia, 2000 and 2009	21
Table 2.1	Incidence of unemployment in selected industries, December 1921 to June 1939 (percentage of insured workpeople unemployed)	60
Table 2.2	World and British mercantile output 1920-1938: tonnage launched (000 tons)	61
Table 2.3	Strikes in the British shipbuilding industry, 1939-1945	64
Table 2.4	Shipbuilding percentage shares of the world export market	73
Table 2.5	World and United Kingdom launchings of merchant ships, 1947-1964	78

Table 2.6	British and Japanese mercantile completions in global comparison 1963-1970 (000 grt)	85
Table 2.7	British and Japanese mercantile completions in global comparison 1971-1980 (000 grt)	103
Table 2.8	UK and World shipbuilding launches, 1980-1990 (000 grt)	111
Table 7.1	The “seven sisters” of Dutch shipbuilding, 1958-1967	225
Table 7.2	Shipbuilding companies with more than fifty employees compared to the seven sisters, 1958-1967	226
Appendix 7.1	Completed ships in the Netherlands, 1950-1986	241
Appendix 7.2	Number of companies and number of employees in shipbuilding and ship repair, 1951-1986	242
Appendix 7.3	Strikes in the Dutch shipbuilding industry, 1950-2005	243
Appendix 7.4	History of RSV	245
Table 8.1	Workers and clerks from 1959 to 1982 (percentages)	254
Table 8.2	Workers’ qualifications 1959-1975 (percentages)	255
Table 8.3	Workers in Sestri under 25 and 29 years old, 1974 and 1980 (percentages)	256
Table 8.4	Workers at Sestri by age in 1974, 1977 and 1980 (percentages)	256
Table 8.5	Minimum wage of unskilled workers and women, 1959-1962 (lire per hour)	257
Table 8.6	Workers’ wages, 1959-1967 (lire per hour)	258
Table 8.7	Accidents per million hours worked, 1968-1979	260
Table 10.1	Shipbuilding workforce in Gijón	308
Table 10.2	Naval Gijón’s workforce	317
Table 11.1	Ships repaired in Setenave and Solisnor, 1975-1995	323
Table 11.2	Workers’ Commission elections, 1976-1994	332
Table 12.1	Number of workers at Lisnave 1967-1997	346
Table 13.1	Gdańsk Shipyard deliveries, 1960-1990 (selected years)	377
Table 13.2	Number of employees in the Lenin/Gdańsk Shipyard, 1950-1990 (selected years)	385
Table 13.3	Women in the shipbuilding and ship repair sector (full-/part-time employment) 1970-2010 (selected years)	385

Table 13.4	Working time balance sheet for Lenin Shipyard in hours per 1 blue collar worker per year	389
Table 13.5	Deliveries, Gdańsk Shipyard, 1975-2012 (selected years)	393
Table 13.6	Number of employees in the Gdańsk Shipyard 1990-2012 (selected years)	393
Table 13.7	Deliveries, Polish shipbuilding industry, 1975-2012 (selected years)	396
Table 14.1	Shipbuilding in Galați, 1944-1960	403
Table 14.2	Technical facilities in Galați Shipyard, 1950-1970	405
Table 14.3	Shipbuilding in Galați, 1961-1970	405
Table 14.4	Shipbuilding in Galați, 1971-1980	408
Table 14.5	Shipbuilding in Galați, 1981-1990	408
Table 15.1	Ship Production in U.S. Shipyards, 1950-2004	424
Table 15.2	Privately Owned U.S. Merchant Fleet, 1950-1999 (vessels of at least 1000 gross register tons)	425
Table 15.3	Output Value in U.S. Shipbuilding and Repairing, 1960-2010	427
Table 15.4	Employment in U.S. Shipbuilding and Repairing: 1950-2010	429
Table 15.5	Hourly Wages in U.S. Shipbuilding and Repairing, 1970-2004	433
Table 17.1	Index of productivity, Structures Workshop, ARS, 2004-2010	465
Table 18.1	Employment distribution, by state, in the Brazilian shipbuilding industry, 1995 and 2013	480
Table 18.2	Percentage distribution of workers within the Brazilian shipbuilding industry according to time working in the same company, 1995-2010	481
Table 18.3	Percentage distribution of workers in the Brazilian shipbuilding industry in minimum wages, 1995-2010	483
Table 18.4	Percentage distribution of Brazilian shipbuilding workers by education level, 1995-2010	485
Table 18.5	Average cost of manpower, per hour, in the shipbuilding industry (in USD), 2008	488
Table 19.1	Brazilian government shipbuilding plans, 1969-1979	496



Table 19.2	Main Brazilian shipyards in 1978	496
Table 19.3	Ships delivered to Transpetro, 2011-2014	501
Table 19.4	Launching output of the Brazilian shipbuilding industry, 1975-1988 (000 grt)	505
Table 19.5	Number of workers employed in shipyards associated with SINAVAL, 2004-2014	507
Table 19.6	Ship orders, worldwide and Brazil, 2010	508
Table 19.7	Working hours and paid overtime, 1963-2012 (selected years; percentage of normal rate)	510
Table 19.8	Monthly wage in US dollars	510
Table 19.9	Minimum salary as a percentage of shipbuilding salary	510
Table 21.1	Performance of Indian shipbuilding yards (USD \$ mn), 2002-2007	551
Table 21.2	Status and performance of shipbuilding companies in Maharashtra	552
Table 21.3	Employment and wage status in BSL, 1973-2011	555
Table 21.4	Company expenses on employee benefits	556
Table 21.5	Major unrest and disputes at Bharati Shipyard Ltd, 1991-2013	557
Table 22.1	Thai shipbuilding capitalisation, 2010	577
Table 22.2	The five biggest shipbuilders in Thailand, 2010	577
Table 22.3	Age range of workers in ASIMAR Shipyard	581
Table 22.4	ASIMAR net salaries 2012	582
Table 22.5	Ratio of white-collar to blue-collar workers	585
Table 22.6	ASIMAR salaried and sub-contracting personnel	586
Table 22.7	Occupational structure in ASIMAR	589
Table 23.1	Overseas expansion by large Japanese companies, 1979	600
Table 23.2	Numbers of labourers at Namura Shipyard	612
Table A.1.1	Annual volume of orders placed and annual completions 1970-1976 (mn grt)	668
Table A.1.2	Annual tonnage launched in selected countries, 1975-1983 (000 grt)	671
Table A.1.3	Employment in newbuildings of merchant ships in five countries, selected years	672
Table A.2.1	Completions by country of build, 2013	678
Table A.2.2	Completions per quarter for 2013 and 2014	678

Table A.2.3	Completions by selected ship types for each quarter of 2013	679
Table A.2.4	Orderbook by ship type and country of build (country of build up to July 2013)	679
Table A.2.5	Orderbook (2013) by ship type	681