

the US Navy on how to better integrate all genders and races to ensure “good order and discipline is maintained.”

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Kevin Desmond. *Electric Boats and Ships. A History*. Jefferson, NC: McFarlane & Co. Inc. www.mcfarlane-pub.com, 2017. vii+273 pp., illustrations, appendices, table of builders, notes, bibliography, index. U.S. \$39.95, paper; ISBN 978-1-4766-6515-3. (E-book available.)

The author of this comprehensive book concerning electric motive power on the water was in a library researching a history of motor-boating. The librarian asked if this included electric boats? Mr. Desmond agreed it should, so was given a slim file of mostly old newspaper clippings and ads. From that meagre beginning came this thoroughly researched description of the slow development of boats and ships powered, at least in part, by various versions of electric motors. Today, the industry is still very much a work in progress, due at least in part to the current growing demand for the use of more ‘green energy.’ In fact, Desmond’s last six chapters are devoted to the most recent developments, and incentives such as 2016 Paris Climate Agreement, at whose goals we are supposedly aiming.

As he recounts, the history of electric motors began in the 1830s with experiments, mostly in Europe, with electro-magnets, moving on to the concepts of the ‘accumulator’ or storage battery by 1848, the ‘Grove cell.’ Soon a few, usually well-to-do, supporters adopted the idea for small and quiet launches for their enjoyment, for local transport and for the demonstration of possibilities, not only in the U.K., but particularly in

Russia, France and Italy. This soon led to slow-speed races and cross-Channel competition. By 1870, thanks to an interest in the surge of railways there, Viscount Bury went to Canada and met with Thomas Edison to discuss the concept of electric trains to solve the problem of steam engine emissions in tunnels. On his return Bury founded a company to make electric engines suitable for boats. In the U.S., it wasn’t until 1888 that electric batteries in motor boats began to appear, with a few manufacturers experimenting with electric accumulator-powered small craft.

The first two chapters chronicle all this development up to 1914, some successful, others less so, illustrating its progress with multiple drawings and photographs, sometimes referred to as the ‘Golden age of electric boating.’ The major problem with making the concept a wider commercial success was the weight and complexity of larger batteries, their relatively modest electrical output, and the constant requirement for recharging, at home or *en route*. But some trials, a few of which are still in use, were surprising: in Germany, and briefly along New York’s Erie Canal, barges carrying produce, coal and other items powered by electricity drawn from overhead trolley wires like streetcars, supplemented in open areas by relatively brief endurance batteries proved both practical and economical. The author gives multiple examples of local electric motor ferries across rivers and canals, where recharging was readily available and speed not a criterion. Until about the 1950s, the electric power at sea industry pattered along relatively unappreciated.

The development of efficient and more powerful gasoline inboard and outboard motors and their easy and wide availability tended to discourage serious attention to larger electric mo-

tive power for those middle years. Nevertheless, the original requirement for small but quiet and smooth craft kept the demand and experimentation going in the outskirts of the transportation industry. Solar energy appeared and the first solar-powered engine was on trial in 1976 in England, followed by growing interest in Japan, Germany and the U.S. Recently, in the 2000s, fuel cells have appeared as a source. The ability to generate significant electric-drive power has led to wider experimentation, plus the use of such low-cost power to supplement fuel-driven motors even in larger ocean ships, where fuel costs have become a measure of profitability, have encouraged an increase in experimentation and demand. This is traced carefully in the middle chapters. Countries like the Netherlands and Switzerland have entered the field.

For anyone interested in this specific motive power on water, or in further research in this field, Desmond's careful inclusion throughout of the names of companies in the business, the inventors and developers, the list and locations of surely all firms working in the field even now, the multiple options for electric power application, will prove a great resource. This general and careful overview of this engine power in sea craft will be at the least a highly valuable reference guide.

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Stephen Ellis, translator. *The Russian Baltic Fleet in the Time of War and Revolution 1914-1918: The Recollections of Admiral S. N. Timirev*. Barnsley, South Yorks: Seaforth Publishing, www.seaforthpublishing.com, 2020. 238 pp., illustrations, maps, tables, appendices, notes, index. UK £25.00, cloth; ISBN 978-1-5267-7702-7.

This work represents the first English translation of Imperial Russian Rear Admiral Sergei Nikolaevich Timirev's memoir regarding his service throughout the First World War and Russian Revolution. Completed by Timirev in 1922 while serving as a ship captain in Shanghai, this account offers a rare firsthand account of the Imperial Russian Baltic fleet at both the ground and command level during key points in Russian History. Given the diaspora of loyal White Russian forces after the Revolution and subsequent purges, primary sources regarding the early naval actions of the First World War through the upheaval of Revolution from a non-Bolshevik perspective were essentially non-existent for decades until the Russian-language publication of Timirev's text in 1961. Doubtlessly important, this work remained largely unavailable to scholars who lacked the ability to read it in its original Russian. Translator Stephen Ellis's magnificent efforts have solved this dilemma, bringing Timirev's words forth in an excellent translation, complete with helpful endnotes, appendices, and a translator's commentary.

The work begins with a collection of introductory elements, such as Ellis' translation preface, the original Russian language publication's 1961 biography of Timirev, three personal photographs, and a map of the Baltic area. Timirev's memoir is then put on display as he wrote it, with bulleted key point summaries at the start of each chapter for quick reference and the translator's historical notations done as endnotes. As a whole, the work is divided into two parts—before and after the February 1917 Revolution. The first section's seven chapters cover Timirev's experiences from 10 July 1914 through the end of February 1917. His firsthand accounts of the clumsy and chaotic nature