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William H. Thiesen, **Industrializing American Shipbuilding: The Transformation of Ship Design and Construction, 1820-1920**, University Press of Florida, 2006. 302pp.

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On November 12, 2002, the Dean of the Virginia Military Institute, Brigadier General Charles ‘Casey’ Brower, spoke at the Franklin D. Roosevelt Presidential Library in New York of ‘British brains’ and ‘American brawn’ at work in the grand strategy of the Second World War. This has been a recognized theme for some time; Churchill himself supposedly commenting on the need for British brains and American brawn to counteract the post-war Soviet menace—while Stalin at the Tehran Conference in November 1943 dryly remarked on ‘Russian blood’ as the final ingredient of Allied victory. In William H. Thiesen’s impressive book, *Industrializing American Shipbuilding*, it is again Great Britain which finally provides the intellectual impetus to unlock America’s long-held ambitions at sea. Shipbuilding itself went from the ‘practical to the theoretical’, from a craft to a science. Yet, as Thiesen rightly points out, “the flow of technology is never one way.” By the dawn of the twentieth century, British experts began to adopt uniquely American shipbuilding practices which reflected those changes occurring in mass-production industry as well.

Among other things, this work is a highly skilled synthesis of a relatively neglected tier of source material, namely contemporary professional journals and treatises on (iron) shipbuilding. These sources are of course themselves not definitive; one century’s ‘science’ is another’s record of documented trial-and-error only. Many of them (like British Chief Constructor Edward Reed’s *Naval Science*) were intensely self-serving and political. But Thiesen has succeeded in bringing a very complicated, international phenomenon to light under one cover. While it may lack in broader analyses which help explain the decision-making processes (or not) of British and American shipbuilders, commercial and naval, it also avoids overly technical discussions which tend to lose the plot altogether.

Could the United States have built first-rate battleships of its own accord? That is a central, implicit question of *Industrializing American Shipbuilding*. Thiesen suggests it could not without first tapping into (often costly) British experiences ultimately yielding a “scientific movement [that] rationalized the process of designing ships.” One problem that emerges is a clear timeline of developments—precisely because of the nature of ‘technological evolution’, nevermind the role of various (sometimes crucial) influences

which constantly seeped over the Atlantic and back and which are by their nature impossible to trace definitively. Both American and British shipbuilding practices can be said to have been largely ‘ad hoc’ until several acute disasters in design—Brunel’s Great Eastern, for example, and especially the sail-and-turret HMS Captain—exposed the shortcomings of this approach in shipbuilding, when the pressure was on like never before to keep up with a rival’s carrying trade or daily advances in steam engineering, gun-making and metallurgy. By the early 1870s this seems to have finally dovetailed with a public, published dialogue and professionalism which was closely followed on both sides of the Atlantic. (It was not a British monopoly; it never was.) Necessity being the mother of invention, it was the British who had more to gain from standardizing iron shipbuilding in the private sector on a more measured, scientific basis, and more to lose in terms of global, imperial security if this was neglected professionally.

Nevertheless, during the American Civil War years it was the U.S. Navy that ‘spiked’ the limits of shipbuilding innovation and production; nothing approached the technological prowess of the USS Monitor. Around 1866, this mastless, entirely steam-operated form of warship, with concentrated low freeboard armor protection and heavy turret-mounted armament, inspired Reed and the British Admiralty to invest in monitor-ironclads; first for overseas imperial bases (Bombay, Melbourne) and then as oceanic battleships (HMS Devastation, launched in 1871). In other words the critical ‘gap’ between British and American professionalism in shipbuilding was not necessarily imbedded socially. Thiesen suggests, though without specific evidence, an American contempt for ‘undemocratic’ practices which might exclude popular participation in shipbuilding, while British designers evolved into an increasingly specialized elite. Instead this was more the product of historical circumstances, perhaps a decade off technologically-speaking, but not much more. When the Americans began to reach for overseas markets and naval bases in the 1880s they were likewise able to draw upon international practices and apply them to national resources as it suited them. Neither the British nor the Americans were singularly brainy or brawny...

Closely linked to the establishment of naval schools and architectural associations, of course, was not only rising Anglo-American industrial capacity, but even population. Paul Kennedy’s numbers still add up; by the 20th-century the British Empire had good cause to wonder if it could keep it going against Europe, particularly Germany. Thus the ‘flow of technology’ was itself determined by grand strategic parameters. Britain’s Naval Defence Act of 1889 signalled a new naval arms race between major industrialized powers. “We have got to keep the situation in hand with regard to our capacity to build,” noted Foreign Secretary Sir Edward Grey in 1909. There was no guarantee that brains or brawn could counterbalance blood—the will of a people—even in an age of science. Industrializing American Shipbuilding is a valuable step in understanding this modern dynamic of power.



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