How Carriers Fought - Carrier Operations in WWII

Notes On Sources

by Lars Celander, updated Febuary 16th 2022

About this text

This text is an extension and follow-up of my treatment of this topic in my book How Carriers Fought - Carrier Operations in WWII. No second edition of the book is planned so this text can be regarded as a rewrite of that section in the existing edition of the book.

Introduction

Since publication, the book has been criticised by professional historians for not referencing its sources. Some key numbers are clearly referenced, but for the most part, the book doesn't provide references for what it says. Professional historians then say that for them the book is unusable as they cannot judge how reliable it is.

First of all, professional historians was never the intended market. That market is simply too small. I wished to reach a wider audience. I felt I had something to say and I wanted to have an impact.

As any well-behaved author, I did make an effort to list my sources and references as is usual for any good book on history. I quickly realized that it was impractical. It just didn't make sense. As I am not a professional historian, and never felt an obligation to abide by the rules of the field, I then opted for a less detailed style in how I listed my sources. In my opinion also a more readable and less cumbersome approach. Beyond that, I never really gave much thought to it.The criticism got me thinking however.

Discussion

Firstly, I simply didn't have much in the way of sources. There aren't any sources out there that deal with this subject, at least not explicitly. Nothing much to reference really, to be brutally honest. If good sources had indeed existed, this kind of book would have been written long time ago.

In the traditional literature, such as all the usual accounts of the various battles, there was sometimes something of interest. Likewise, with books about the various ships and aircraft, again sometimes something of interest cropped up. Official documents were useful but tended to be quite frustrating in appearing to consider the 'how' as a given.

One of the more useful sources turned out to be pilot memoirs. Usefulness varied however, most books only contained a few tidbits of useful information so I ended up plowing through a great many. Internet searches provided lots of information but the big

problem here was reliability. Anything found here had to be treated with more caution than usual.

What I had found was then compared to what I had found elsewhere. Sometimes sources largely agreed, sometimes they didn't. Sometimes the sources overlapped and sometimes they complemented each other, providing different pieces of the overall puzzle.

I rarely ended up with a complete and reliable picture of what happened. Typically I would have to use my own knowledge of the topic, my own experience of what the real problems were, to piece things together.

I made frequent use of basic math, particularly game theory and statistics. Indeed, the book started out as an academic paper subtitled "An Operations Research Analysis". Much of the math was kept out of the book to not intimidate the reader. Often, I would crunch some numbers, both to find out what happened and to check my sources. Never underestimate the usefulness of numbers, math and just plain logic.

I then spent two years double-, triple- and quadruple-checking everything. Working with shaky sources and only my own inferences, it turned out that I was sometimes just wrong. As the book matured, the text became more cautious and nuanced in what it said, how it was said and what was left out. There were many cases where I had to ask myself: how much do I really know this? As a rule of thumb, if I had two independent sources that said the same thing and if it made soliod sense, then I would accept it. A single source saying something that made sense wasn't good enough. I had been burned a few times. If I felt that I couldn't be sure, then I didn't say it. Much better to be silent than to be wrong.

One way to better understand a topic was to do 'thought experiments' around it. For those that are not physicists, thought experiments are a common and accepted tool. As an example, Einstein's theory of relativety is largely based on a series of thought experiments. Sitting on my couch I did thought experiments on how to control an aircraft in a steep dive against a target, usually represented by my cat moving around on the carpet beneath me. Going through the steps of a dive, dealing with details of maneuvering a plane in a steep dive against a moving target, I gained a better understanding of dive bombing. Likewise with my text on how to land a taildragger. Armed with a basic understanding of the aerodynamics and mechanics of the situation, I did similar thought experiments on how to land a taildragger on a carrier. To check my work, I showed the text to an instructor pilot with more that 2000 hours in taildraggers. He came back quite amazed, asking me how much experience I had in taildraggers (none). He said that it was the best description he had ever read and asked if he could use it in his instruction of taildragger pilots.

I have a degree in Physics, not History. I have professional experience in many areas related to physics and mathematics, for example navigation, radio, radar, CIC techniques, anti-aircraft gunnery, weather, hydrodynamics, naval architecture, aerodynamics and flying. In the military, I served as a systems engineer on an operational anti-aircraft unit. I also worked several years on the development of various military radar, radio and IFF systems.

In my view, it is this body of knowledge and experience that enabled me to write this book, despite the relative lack of sources. This is fundamental to the whole book. Without it, I would have been lost, I wouldn't have been able to say much about anything. This made references and footnotes just awkward since so much depended on my own knowledge and experience.

Furthermore, coming up with new answers doesn't necessarily involve digging up new sources. It can also be the result of simply asking new questions, approaching the topic with a different mindset.

A deeper answer is probably the focus of the book, the "how" instead of the more common "what" and "when". Focusing on the how, the book should probably be seen more as a textbook on physics than a book on history. The history of WWII is the setting, not the topic. The topic is physics.

An important part of my sourcing is then the various textbooks on physics and physics-related topics, everything from radar to navigation and naval architecture. Which textbook to reference is pointless as they all say the same thing. The laws of physics are the same now as they were back in WWII.

A byproduct of having used this approach is that I've become quite critical of how much of history is traditionally written. There is tendency to simply hoard facts. The more detailed facts, the better. The problem is that after painstakingly finding and presenting (and footnoting) all these facts, much is still poorly understood. To quote Einstein: "Any fool can know. The point is to understand.". Knowing is not enough. You have to understand what you are talking about on a deeper level, in this case the physics and engineering of it all. Without that understanding, descriptions and conclusions can be quite wrong. As shown by all the myths busted in the book. Which is where I hope I have made an original contribution to the field, not just having repeated what others have said before me. To a degree, what I have been able to say, without much in the way of sources, is the whole point of the book.

Historians need to understand how limited and handicapped they are without an understanding of the underlying engineering and physics-related aspects of what they write about. In a topic as technologically complex as carrier warfare, this is fundamental and something that every professional historian should be fully aware of.

In the Anglo-Saxon world, there is a tradition to see History as a form of literature. It is about telling a story. It is accepted that the more hard-core technical stuff can be left out. This is both good and bad. It makes history more readable, enabling it to reach a wider audience. Having won the war also helps, celebrating victories is more popular than analyzing defeats. The risk is that it allows and indeed rewards the popularization of various misconceptions and myths.

What is obviously needed needed are more cross-disciplinary works. However, cross disciplinary works have always been the poor stepchild of Academia. In an environment dominated by peer-reviewing, they are usually deemed lacking by both disciplines. My book is no exception. In terms of Engineering and Physics, it is trivial. In terms of History, it doesn't follow the accepted rules of the field.

Will there ever be a book on the same topic that does provide proper references for everything? If it was doable, somebody would have done it. If you have all the references you need, it is an easy book to write.

Conclusion

So how should a professional historian evaluate my book as a source? The somewhat cruel answer is that a professional historian simply cannot. Without the right degree, knowledge or experience, the book will have to be taken at face value. Like any other textbook.

However, there are other ways to evaluate the accuracy and reliability of a source. The ultimate test is probably how many errors have been found in it. With more than three years since publication and with many reviews and forum discussion available, I am not yet aware of a single confirmed error in the book.