CAPTAIN COOK AND THE FUTURE OF (MARINE AND AQUATIC SCIENCE) LIBRARIES

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ABSTRACT: The legacy of James Cook is large enough to fill the lives of many. An experienced navigator, he expanded his horizons and gained his fame as a renowned explorer and scientist. He left a rich portfolio for following generations to learn from and build upon – an imprint upon civilization which, for good or bad, will last as long as the history of western civilization.

Like Cook, we are embarked upon a voyage into largely uncharted waters whose ultimate destination is unknown. We are riding low in the water, heavily laden with an assorted cargo of change, shrinking acquisition budgets, and a vast amount of uncertainty.

This writer’s recent experience in serving on a search committee for a new Dean and Director of Libraries triggered the interest in James Cook. Are there parallels between the voyages of Cook, his mission and possible implications for our future? Yes. We can learn from them. However, as a Cook historian can testify, we must be careful on our voyage.

In January, 1778, two ships sailed from Hawaii on an easterly heading. They then turned North and traversed the west coast of North America. One was the 462-ton bark, HMS Resolution, under the command of Captain James Cook. This was his third voyage to the Pacific in a ten year period. The second ship was a slightly smaller bark of 298 tons, the HMS Discovery, commanded by Captain James Clerke. They were about two years out of Plymouth, England, and pursuing one of their major objectives, a North East passage to the Atlantic Ocean.

A little over two hundred years later, this writer was approached by one of the faculty at the Marine Sciences Research Center at Stony Brook who inquired about the status of our search for a new Dean and Director of Libraries. At the time, the search was winding down. Those of us on the search committee were hoping that the Provost’s choice would accept the offer and provide the leadership for the difficult times ahead.

We were standing just outside the “community” mail room in Endeavour Hall. While speaking to this faculty member, I glanced over his shoulder and noticed two reproductions on the wall. One was of the HMS Endeavour. Next to it hung a portrait of Captain James Cook, commander of the vessel on his first voyage to the Pacific Ocean. At the time, I assumed that there might be a connection between the name of the building and James Cook. Some research indicated that there
was a connection. And further reading indicated parallels between Cook, our search for a new Dean and Director of Libraries and the uncertainties facing libraries in the future.

Captain James Cook

James Cook was a remarkable individual in many respects. Born into the family of a farm laborer in Yorkshire, England, in 1728, he grew up and, while working as a laborer himself, he learned to read and write. He then became clerk in a grocery store and shortly thereafter, went to sea with the objective of becoming a ship’s master, and part owner of a merchant ship. In 1755, after a successful career that led him to the point where he would achieve this goal, he joined the Navy (Hough 1995).

From the beginning of his twenty-three year career in the Royal Navy, his talents were recognized and used to promote the interests of the Empire. Demonstrating his proficiency as an accomplished sailor and navigator, he was sent to Nova Scotia for training as a surveyor. His mastery of these skills first became evident during the Seven Years Wars when his accurate charting of the St. Lawrence River contributed to the British capture of Quebec in 1759. This military contribution was followed by several years of charting the Newfoundland coastline, economically significant because of the North Atlantic cod fisheries. He had become the master hydrographer of the British Navy (Greenhill 1978).

In 1768, he was named to command a new ship, the HMS Endeavour, and take it to Tahiti to chart the transit of Venus in 1769. The purpose of this observation was to help determine the size of the earth. He was also given secret orders to chart the great “southern continent” that was believed to exist and supposedly had been sighted by a British crew a few years earlier. On this voyage, Cook found New Zealand but no southern continent. He returned to Plymouth in 1771. His second voyage began in 1772 and ended in 1775. The purpose of this expedition was to either find and chart the “southern continent” or dispel the myth entirely. The mission began by sailing around the South Pole. He also discovered, charted and claimed many of the islands in the southern Pacific for the crown. This voyage has been described as his most productive.

The third voyage began in 1776 and ended in 1780. It was during this voyage that Cook discovered Hawaii and other islands of the Sandwich group and found that there was no “Northeast Passage” to the Atlantic. After being turned back by the Arctic ice, he returned to Hawaii.

The brevity of the above gives but a hint of the actual scope and impact of these voyages. The wealth of information uncovered (discovered) has been detailed in hundreds of books, papers and journals by crew members, scientists, historians, and many others since 1780. The introduction of the Western European presence into the cultures of the Pacific and its impact, then and now, is the topic of an equal number of treatises. The artifacts returned from these voyages stirred the scientific world. The art was enlightening. The expansion of physical knowledge about the planet was immeasurable.

What should be of interest to librarians who are trying to ascertain, or more rightly, determine the future of marine science or any other library are the components that contributed to the
The success of Cook's voyages. They include: the mission plan; the economics; the experience and leadership; the staff; the planning with its attention to detail; and the technology involved.

The Search

The Provostial search for a new Dean and Director began with the formation of a search committee representing the broad spectrum of any university community. Our charge was to give the Provost a list of "appointable candidates" from which he could select. The rest was up to us. More will be said of this later.

Eventually, a final candidate was selected and an offer was made and accepted. We now have a new Dean and Director of Libraries.

The Cook Contribution, The Search Experience and the Future

How do these separate and distinct series of events relate and what is their bearing on the future of libraries? Let us begin with the realities of the Cook era.

Economics and Politics

The age of exploration had begun years earlier. Spain, France and England had been sending out their ablest navigators for many years. Many made discoveries and claimed the lands they discovered for their respective crowns. Areas had been colonized. Wars had been fought. France lost her control in North America and elsewhere. At the beginning of Cook's third voyage, England suffered through the revolution by the upstart colonies in North America and the empire shrank, both geographically and economically. Better information about the world and its resources was a necessity if any nation were to maintain or retain what it had. Discoveries had been made but one of the major problems of the era was determining exactly where these new discoveries were. And the Pacific was the last known frontier.

Cook was dispatched for both political and economic reasons in addition to his scientific missions; verify the locations so that others could follow; show the flag; firmly establish a presence so that claims disputes could be supported; determine the resources that could support the economy. These were part of the hidden agenda.

Experience and Leadership

Cook had several years experience as a sailor prior to joining the Navy. His skill as a navigator, honed in the North Atlantic, earned him the opportunity to take command of a merchant sailor. He, instead, entered the Navy where his navigation skills were recognized by his superiors. They sent him to work with the Army to learn the skills of a surveyor. He accomplished mastery of this skill in a two year period prior to charting the St. Lawrence River. After the cessation of the war, he spent several more years sailing in the North Atlantic and accurately charting the coastline. His work was considered to be of the highest quality. One particular characteristic that was not quantified was his ability to lead. Based upon the results of his spectacular career, it is ably demonstrated that Cook was a leader.
Planning

In selecting ships for the voyages, consideration was given to each and every detail. The ships were relatively small but could carry substantial cargo – required for extended voyages. They were shallow draft vessels which could be used close to shore in unknown waters for more accurate charting. Their size, depth and design also permitted them to be beached for repairs if necessary. They were, in essence, self contained and could operate for long periods of time without support.

The first voyage was a solo trip by the HMS Endeavour. The second and third voyages were made by two ships each. Based on the first expedition, it was deemed advisable to have more than one in order to provide mutual assistance if required and also to widen search areas. Plan adjustments were made based upon the most recent experience.

Historically, the Navy lost many crew members through disease and illness caused by both diet and extreme working conditions. To avoid this situation, several new types of foodstuffs were added to the provisions list to avoid losses due to scurvy and related illnesses. Crew members worked three shift rotations of eight hours each as opposed to the historic twelve hour shifts. In addition, the ship was ventilated and fires were started in the various work areas to keep them warm and dry. The combination of diet improvement, more rest, dry clothes and quarters, kept the crews healthy. Other diseases, not contracted by shipboard confinement, followed their normal course.

Staffing

In addition to the normal complement of able seamen, officers, and marines, each voyage carried a complement of people not normally associated with a British naval ship. They included naturalists, botanists, astronomers, and artists. These were the people who so enriched the voyages by recording everything that was encountered on these expeditions. The quality of their work was remarkable and contributed to the then known body of science. Reproductions of their efforts can be found in the many volumes published after the voyages. In conjunction with their scientific and artistic pursuits, many of these adventurers were joined by the officers in producing detailed journals of every event on the voyages.

Technology

The technology of the mid to late 1700’s may have been crude by today’s standards but remarkably well advanced in many areas. Some of the devices used during this period are still in use today. Cook took advantage of everything that was available.

In 1766, the first edition of the Nautical Almanac was published. This enabled navigators to plot their longitude within an accuracy of thirty miles east or west of Greenwich. Coupled with the use of the manual, a pocket watch and the newly invented sextant, Cook was able to plot his position at any point in his voyage with great accuracy. Consequently, the accuracy of the charts was greater than ever before. On his second and third voyages, Cook used Larcum Kendall’s copy of Harrison’s chronometer which improved position fixing within an accuracy of three miles. (Both are still operating in the British National Maritime Museum.)
The Critical Item – The Mission

All of the above played significant roles in the success of Cook’s voyages. However, the key item was the mission for each of the voyages. The mission was defined, not by Cook, but by his military and political leaders. Their definition brought about the support of the crown, the admiralty, and the scientific community. Without these resources — financial, technical, political — the voyages would never have taken place. Both the public and private agendas were met. Consequently, everyone was pleased with the results.

The Search Experience

The most fascinating part of search was the effort to determine what our library system was and what it should be. Each member of the committee viewed the function and activities of the library from a personal, almost biased perspective. Fortunately, this gathering was chaired by a very distinguished, charming, persuasive, erudite individual who imposed a style of leadership that converted our differences to consensus — no mean feat. He focused on our primary mission — the understanding of our library, the mission of the university, and the mission of the library and its prospective director in fulfilling that role. From there forward, it was simply a matter of defining the desirable but necessary traits, experience and skills of the individual we sought. The more personal part was in screening the applications, and later, the initial round of applicants. We were charged with passing judgement on individuals that we had never met before. Our decisions would impact not only on the lives of the winning and losing applicants, but also on the future of the library, the university and ourselves. We made our choices and fulfilled our mission.

THE FUTURE

We have taken a backward look at two success stories. Now we must look to the future. Let us peruse some all too familiar realities of today from the perspective of our own positions and those of our parent organizations and try to compare them to our successful Captain Cook and our search.

Economics

Our parent institutions today, in general, are faced with either flat or declining sources of revenue. Many attending this conference are in the same position. The personnel support is not improving. Acquisition and access costs are climbing. We are not experiencing a comparable decline in demand for services. In reality, we are seeing a shift in research emphasis which is calling for collection and other support in areas where we may not be as strong as we ought. For example, the oceanographers at this writer’s institution have indicated that there has been a significant shift in funding from blue water to coastal research by ONR (Office of Naval Research) — and at lower levels. (Supporting statistics are maintained at ONR by program area only rather than by blue v. coastal water grants. The only currently available figure published on the ONR web site is $13.8 million dollars for fiscal year 1997 in the area of physical oceanography. There is no indication of the split.)

The National Science Foundation publishes more complete budget figures on their web site. But a review of their fiscal year 1997 figures show a relatively flat projection for the current year compared to last.
ARL statistics show no significant trends in upward spending over the past several years but do reflect increasing costs. (Figure 1)

In contrast, James Cook was well funded and well supported on each of his voyages.

Experience and Leadership

Cook’s considerable experience and demonstrated leadership skills have already been articulated earlier.

Many here today have years of experience in the library field. Many are noted for their contributions to librarianship and toward building strong libraries. Many are well funded but some are not so fortunate. But few, if any, here today have previously experienced the rate of change that has been taking place for the past several years and will continue into the future. There are more core issues to deal with and fewer resources to work with as well as an increasing demand for new or different services.

Let us assume that all here have demonstrated the perquisite leadership skills to support our facility, or that it is a nascent quality that each is developing for this new environment. We must prepare ourselves to master the complexities of the evolving technology based library environment that we are facing without jeopardizing our traditional service mission to our user community. We must, as was Cook, be able to rise to the challenge.

Planning (Preparation)

Cook’s voyages were well planned and provisioned as indicated earlier. Proper design, tools, environment, working conditions, procedures, and the latest information were the norm.

Our mandate is no less in scope. We must know how to read the political climate and become shrewd financial analysts. We must follow the trends in current research efforts to be able to support them properly. We must continually sell the library and its unique services. We must sell the benefit of supporting the library as an investment in the future, not only for the user community but the parent institution itself. We must also sell the benefit of making financial contributions to the library. We must take the time that we don’t have to learn these new skills as well as others in the realm of technology. We must also expand our levels of cooperation with researchers in the many areas that impact the operation and use of our libraries. The complexities are escalating. We cannot think, much less afford, to operate on our own.

Technology

Cook used the newest and the best that was available to him in order to assure himself the greatest measure of success. Are we doing the same? Are we using the latest microcomputers to access our local and remote library catalogs? Are we accessing full-text databases residing on publisher equipment? Are we promoting the installation of ATM or T-3 lines or 100 MB ethernet to support better performance or greater bandwidth? The answer is probably yes. If not, we will be doing it relatively soon. How are we paying for these technological advances? Are we dipping into our acquisitions budget or are we gutting it? Many, including this writer, have
consistently gnawed away at monograph allocations in order to support the use of either locally mounted (CD-ROM) or Internet accessed bibliographic or full text databases.

Through local networking, directed Internet access, and the provision of web browsers, we have opened the global door for our users.

We have developed web servers that provide links to discipline or research areas of interest that would be formerly unknown or unavailable to our user community. We should be proud of these efforts. We, as Cook, are using the available technology to the best of our ability and resources to provide expanded service for our users. We have taken our own time in many cases to develop these new library tools. On an institutional basis, we are implementing or augmenting the desktop delivery of articles. (Books are beamed down to faculty offices a day or two later.) We are doing the same for TOC (Table Of Contents) service and developing user profiles for current awareness programs. We are giving to our users more than was available ten years ago. Not only are we stretching the new technologies, but we are employing them in ways that far surpass Cook in the scope of our efforts. In reality, we have created, for better or worse, a new information horizon. But is there a hidden cost to all this progress?

Caveats for Consideration

We are installing new technology as fast as possible with one-time funding being provided from various sources or from part of our operating budgets. Realistically, we have arrived at the end of the life cycle for the first wave of microcomputers. Replacements are cheaper than the three year old machines they replace but they do have to be funded. This is a time when we are introducing a new type of recurring operating cost into our budgets. Financial analysts are familiar with a statement entitled Source and Use of Funds. We know our sources (budgets) and we know what we must spend to maintain our collections, including both access and acquisitions. Or do we? With the inflation in scientific journal pricing over the past several years, many facilities have undergone massive journal cancellations. Others have opted to cancel subscriptions in favor of online bibliographic or full text services offered by many producers at some apparent savings. Now, we must include the cost of replacement microcomputers and supporting software where appropriate.

Are we setting ourselves up for potentially damaging problems in the future? The answer to that is a definite "possibly." At the beginning of this presentation, emphasis was placed upon James Cook’s mission and alluded to his successes. Later, the mission of the search committee was stressed in the recruitment of a new Library Dean and Director. Based upon initial reaction, the search mission was successful. Now, we are offering a richer palette of access with this new information horizon. Should we question the acceptance of this instant technology gratification by our users any more than the many peoples of the South Pacific question the impact of Western European culture on their traditional societies? Are we sacrificing the archival tradition of libraries in toto? Has technology become an end rather than the means?

We may not know the answers to these questions but we must ask others. One librarian recently asked if it were appropriate to discontinue a journal after maintaining it for twenty or thirty years just because it is now available via the Internet. What would happen if the producer (publisher) gave up on the electronic marketing of his product after several years because it wasn’t profitable? How would we cover the gap in the collection? The standard answer is that
“somebody has it.” If this opinion were universal, there would be no record. Where are the guarantees that there will be an archival record somewhere, albeit paper or digital? There are none. The archival question was raised here yesterday but was not answered.

Who will decide if a commercially obtained database is archived? Does the vendor, or provider, have the knowledge of the database and appropriate archiving principles to generate what would be considered a true archival record? More realistically, would a provider who discovers that he or she is not making the expected profit margins and decides to quit the business have the financial incentive to generate appropriate archival files? We do know the answer to this question.

The backbone of the digitization of libraries is the Internet and the access it offers to the population in general and library users in particular. However, growth of the use of the Internet has been so great as to strain the facilities of the backbone suppliers and the ISPs (Meeker 1996). When it began as the ARPANET under the aegis of the NSF, there may have been problems on occasion but there was some modicum of control. As originally conceived, the Internet was originally designed for use by government agencies, primarily defense and scientific research functions, as well as academia. It was not designed for reading journals, or handling telephone traffic, or full motion video files, and the like (Zeigler 1996). It was formulated to support scientists at various locations in exchanging messages, papers, and programs—relatively few users and low levels of traffic. Since last year when “it” was privatized, commercial use has soared and it has now become a money-making tool for many. This is ably demonstrated in many cases by using a browser based search engine. A search will, in many cases, put the ad for a particular product before your eyes prior to the search results. The dollar rules on the net today.

Presumably, there are safeguards that will continue library and other non-profit organizations access to the Internet in the future. There will be a price but it will be there. However, there are times when something goes wrong. A T-1 or T-3 line can go out due to a repeater failure or a central office frame failure. These take time to repair. How will we provide a level of service to our users, even if it is degraded? Does our planning for the future of our library provide for interim alternatives?

SUMMARY

The glimpse at the successful career of James Cook was intended to stress his personal experience, his leadership ability and his developed skills as an explorer and their impact on the world as we know it. Unquestionably, he was successful. The key to success was the combination of his talents, the support of his military and political superiors, and a fully supported mission. Cook met the stated objectives.

In a similar fashion, the glimpse at the search for a Library Dean and Director was intended to demonstrate the need to fulfill a clearly stated mission. The experience of the members of the committee was melded and worked to produce a consensus as to the mission and its various objectives. To this end, the search was successful. We are now embarked on a major library reorganization plan to improve many aspects of operations and service delivery.

With respect to the future of aquatic and marine science libraries, there are very strong parallels (figure 2). We must remember that our collective experience, our planning skills, and our
utilization of scarce resources must be used to strengthen our library so that it can support the changing needs of our users in the years to come. The institution is intended to serve others long after we have departed the scene. Our mission is to serve our users appropriately, both today and tomorrow. We must plan wisely and use the technology properly but not at the cost of some of the traditions that have withstood the test of time.

We have helped create and lead our users to this new information horizon. But our task is not finished. In addition to the complexities involved in libraries today, we must not forget that we exist to serve our user community in a unique fashion. They must be taught that the abundance of the Internet is also filled with misleading, misguided, and incorrect information. We must be there to help and teach them to be discriminating in their choice and use of information. We must not fail in this effort. If the Internet becomes the source of all wisdom, then there is no need for libraries.

We must not be afraid of change but we should think through our plans carefully – even to the least detail. To assist us on this last point, let us remember February 14, 1779. Captain James Cook, a seasoned explorer and honored as a deity in Hawaii, made a slight error in reading the mood of the people after a dispute over a small cutter that apparently had been stolen. February 14, 1779 was the day he was killed.

Let us all be careful.
Graph 2: Monograph and Serial Costs in ARL Libraries, 1986-1995

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Figure 2
References


Smith, B. 1992. Imagining the Pacific: In the Wake of the Cook Voyages. Yale University Press, New Haven..