



DR. L.T.E. THOMPSON
Dahlgren's First Leading Scientist

| | |
|-----------------------|--|
| Introduction | <p><u>MUSIC</u></p> <p>Welcome to the Dahlgren Centennial Celebration – A Century of Innovation. We hope that this and our many other products, events and offerings will showcase what Dahlgren has accomplished during its last 100 years.</p> <p>Throughout our history, we've interviewed some of the most prominent minds, leaders and innovators that have been here, and we're opening up the vault to share them with you this year.</p> <p>Today we are honored to listen to the story of Dr. L.T.E. Thompson, whose work spanned from 1923 to 1942. Dr. Thompson was Dahlgren's first Chief Physicist, an early predecessor of the Technical Director position.</p> |
| Rouse | After World War I, most scientists who had been employed by the government to conduct military research programs returned to the academic community feel that their tenure with the government had been a waste of time. Why did you, in 1923, choose to come with the government to such an isolated place as Dahlgren to continue your work in ballistics? |
| L.T.E Thompson | It's a little difficult to say what the primary factor there influencing my opinion, but people had those feelings about working with the military, and that was one of the reasons why I felt it was so important to continue working with them. They needed to have the kind of help that could come from people who had been working in a scientific world or in a world that was concerned with the technical problems that were of primary importance to the Navy. I can think of every reason in the world why it should work out that way. If a person is interested in his work there and the factors that are important in determining how it is going to affect the country, and it was perfectly obvious in those days that we needed this kind of work to help the military. |
| Rouse | What guidance were you given at that time? |
| L.T.E Thompson | The guidance was sort of an indefinite factor. |
| Rouse | What personal goals did you set in approaching your work? What were your objectives? |
| L.T.E Thompson | I guess in those days, I was just wanted to get started with a program of work that would be significant in the military field. It's obvious that the military |





| | |
|------------------------|--|
| | <p>establishment needed to have assistance from people who were acquainted with the kind of work that was necessary to make progress then so the goals were to just set up the framework that would be helpful to the Navy particularly and specifically to the Navy in accomplishing what they were trying to do with the aid of the additional machinery that comes with a scientific framework. It's the appreciation of the importance of that framework to make progress in this field that was lacking in the early days—not necessarily at Dahlgren. It was just a question of being a military establishment as a whole was not certain that they needed the help, but on the other hand, many of the individuals in the establishment were quite interesting. The scientific tools had to be used in order to get ahead.</p> |
| Rouse | <p>What was the initial environment like at Dahlgren for conducting your work?</p> |
| L.T.E Thompson | <p>Well, if you mean by environment that attitude of the people toward work of this kind, there was obviously a considerable need for a better understanding of what the work was about and what it was intended to do for them. That's the people in the military establishment. I'm not talking about Dahlgren now. In the early days, it was thought of this kind of work as something people wanted to impose on them—not necessarily as something that was necessarily for them to get ahead. Later, they changed that view and became very much interested in getting the kind of help that comes this way. It worked out all right, but it would take a little while. I don't mean it was done as a result of our work at Dahlgren. I mean the country as whole became more aware of the need for scientific tools that the scientific establishment had to get ahead in the field that they were concerned with—that they depended on.</p> |
| Rouse | <p>Did you feel any pressure from Indian Head?</p> |
| L.T.E Thompson | <p>No, nothing in particular. There was always a great deal of back and forth interests in that kind of common situation, and we had quite a bit of back and forth discussion and that sort of thing but not many formal meetings.</p> |
| Rouse | <p>Did you get much support from the Navy's Bureau of Ordnance and from Washington in general during the 20s and 30s?</p> |
| L.T.E. Thompson | <p>Well, the Bureau of Ordnance and other parts of the military establishments in that area were interested, but they were not impressed with the importance of this kind of work in the early days as they were later. That wasn't their fault. It was just that that's the way the place grew up.</p> |
| Rouse | <p>Dahlgren was once a major stop for postgraduate officers from the Naval Academy. Were you satisfied with the abilities and attitudes of most of these young officers who came to you for training?</p> |





| | |
|-----------------------|---|
| | |
| L.T.E Thompson | The abilities were certainly there. They were able young men who had gone to the Navy Postgraduate course and did good work. The kind of training they had to have before they came there was not always the kind that would be recommended now for getting ready for that sort of program, but I think it worked out as well as you could expect it to work out under the circumstances—starting out from scratch. |
| Rouse | There were very few civilian professionals at Dahlgren, as we’ve already mentioned, in the early years. How did you find the working relations between civilian and military? |
| L.T.E Thompson | It went all the way from one extreme to the other. In some cases, there military people who were very sympathetic with the work that we were trying to do, and they did what they could to help us. But there was also many cases of people who just didn’t understand the importance of the work and thought of it, I think, as a kind of impediment. I don’t know whether they did or not, actually, but they weren’t very cooperative. But in many cases, they were quite cooperative with me personally. But the difficulty with the thing was the atmosphere that was set around this sort of work was not especially developed. |
| Rouse | There was a lot of work in aviation at Dahlgren during the 1920s and 1930s with tests of machine guns, bombs, and the very fine Norden bombsights. Did you support this effort and feel that Dahlgren was proper place for such work? |
| L.T.E Thompson | It certainly was the proper place, but we had to improve the facilities for doing the work, and that was what we were trying to do. Yes, we had quite a bit to do in my area with the kind of thing that was already in progress there—to just develop the work as well as we could and try to increase the interest in it. It took quite a long while to develop the favorable atmosphere, but it wasn’t at all unfavorable. Some of it was quite favorable. |
| Rouse | Can you give us a general background of your work in small-scale testing of weapons that eventually led to the establishment of the Armor and Projectile (A&P) Laboratory at Dahlgren in 1940? |
| L.T.E Thompson | The more we got into the field of finding out what the problems were and making progress, the more we realized that we had to do what we called fundamental work. We had to understand what was going on in the field, and in order to do that properly, we thought we needed testing a various scales. We needed to have a lot of small-scale testing because you do a great deal of work in that day in the way that you couldn’t get done at all in large scale. |
| Rouse | Admiral Parsons was a great scientist as well as an outstanding naval officer. |





| | |
|-----------------------|--|
| | Can you describe your companionship with him at Dahlgren? |
| L.T.E Thompson | Well, that was one of the spots of the experience at Dahlgren that was most encouraging to me and most satisfactory. He did what he could to encourage the kind of work I was trying to do. And I've never forgotten what that meant to me. |
| Rouse | Can you describe some of the major problems you encountered during your stay at Dahlgren? |
| L.T.E Thompson | That was the time when the work at the center was just getting started in the direction that eventually became quite prominent there. It was difficult in those days to get very much support, financially, for any large-scale work—considerable work; but it finally worked out quite well. The people there were men who support that kind of thing best. |
| Rouse | World War II greatly increased the work at Dahlgren. When did you first feel the inevitability of war, and what was your reaction? |
| L.T.E Thompson | I've always felt it was inevitable. I don't think there's any abrupt occurrence that made it perfectly clear except as the political situations developed which created the likelihood of being trouble of this kind, one couldn't help thinking more and more about the things that were necessary to get ready. That means that we had to be interested in the things that were lacking in the military establishment for dealing with the problems of that kind and to build up the scientific foundations for those things that seemed at that time most likely to develop. |
| Rouse | You spent 19 years at Dahlgren and certainly must have formulated management philosophy about conducting the business of a large organization involved in scientific research as well as proof and testing. Can you comment on how you approached general management problems and the manipulations you effected in order to reach your objectives? I'm speaking primarily about employee motivation, staffing problems, equipment acquisition, and budgeting. |
| L.T.E Thompson | Well, this is all a part of the general area we were referring to momentarily there. What do you do to get the best work from the people involved? The thing that was not so easy to do in the early days was getting a response that seemed adequate to meet the needs of the work of the center. You can't do the work of a center like that without having technical foundations that were necessary to understand those problems and then to get at them. We had to have a gradually built up interest in and understanding of the problems that were necessary to solve in order to get ahead with that kind of work. |





| | |
|------------------------|---|
| Rouse | Did you see any trends developing at Dahlgren during your time there? |
| L.T.E Thompson | Oh, yes. The people at Dahlgren—some of them—did a great deal to support the effort that station wanted to make to understand the foundations for that work. The kind of work that has to be done takes a lot of understanding of the technical picture and a great deal of the interests developed outside came as a result of the influence, I think, of the Dahlgren people and things they had done while they were there. That’s the way I had to deal with it. I’m not saying that as any credit to me. I just did what I could to help those people to do the things they wanted to do and to understand the technical fields. Now the technical fields became more and more apparent as time went on. Technical fields—I mean that we were involved in a better performance of the military in the field. One of the problems was go get the military understanding of those problems up along with other so that we could get a great deal more support for the technical work that has to be done. That’s not a very clear statement, but it was a kind of thing that was necessary in order to get people working in that field effectively. |
| Rouse | From Dahlgren, you went to the Carl L. Norden Company and then eventually became Technical Director of the Naval Ordnance Test Station (NOTS) at China Lake, California. In retrospect, had your expectation at Dahlgren been fulfilled? |
| L.T.E Thompson | Yes, I think as far as my expectation are concerned, I knew it was a high-up-hill road because the people who were necessary, the support that was necessary for that kind of work, had to be based on a very close understanding of the connection between the technical program, the technical work in that program, and the performance of the work that the Navy had to have from Dahlgren. As time went on, the realization grew that we had to have that kind of work and that it was being done better as time went on. In the early days, we used to be pretty discouraged because we thought we weren’t going to get the support for the things that we thought were necessary, but that feeling gradually went out of the picture. |
| Rouse | Any other comments you have about Dahlgren or anything you happen to recall? |
| L.T.E. Thompson | You noticed that after World War I most technical people, scientists, felt that that kind of work in the government wasn’t well done, but that didn’t turn out to be the case. It just was because of the impediments that went with not understanding how the work could have been with the requirements for a successful military program. You see, military programs were programs that had, at their root, a very important set of objectives and questions that had to do with how this work is done. The success that occurred later at Dahlgren of the programs that were undertaken there had a great deal to do, in my opinion, |





| | |
|------------------------|--|
| | <p>with the stimulation they could feel.</p> <p>Dahlgren was once a major stop for postgraduate officers from the Naval Academy.</p> |
| Rouse | I understand a lot of those naval officers went on to bigger and better jobs. |
| L.T.E Thompson | <p>That's right. They did. They also came back and did some fine work in the advanced positions they were in in the Navy Department. It was a very remarkable asset to the Navy to have those young officers coming back after that experience and bringing that experience with them.</p> <p>The working relations between the civilian and the military . . . Well, that has always been an up and down sort of thing. There has been, in the early days, there were many young people in the military establishment who believed in what we were trying to do and did everything they could to help us. That was in spite of the difficulties that they had. On the other hand, there were individuals who were involved at least didn't quite understand why the two had to be mixed up.</p> <p>There was a lot of work in aviation at Dahlgren during the '20s and '30s with the testing of machine guns, bombs, and so on. That was the essence of work that we didn't try to do. We supported it in the sense that we tried to get things done that were need to make it a success. I'm not saying that as a basis for recognizing any virtue on the part of us. We were there as part of a machine. We were trying to get things done, and as that work progressed, it became appreciated more and more in general. It had to be done.</p> |
| Rouse | Can you describe some of your major problems during your stay at Dahlgren? |
| L.T.E. Thompson | <p>Management problems were the problems that we employed in our discussion so far. There were difficulties. Some people understood the importance of this kind of work, and others didn't. In those days, it was not strange that that happened. That kind of thing wasn't being done up to that time elsewhere.</p> <p>From Dahlgren you went to Norden and then NOTE, China Lake. Were you expectations at Dahlgren fulfilled? It depends on how you mean that question. The kind of work we tried to do at Dahlgren was the foundation on which we continued to work for an improved research and development structure in the Navy. It was obvious, even in those days, you had to have a strong research and development structure if we were going to continue to do experimental and developmental work in those fields successfully. The gradual realization that that was one of the chief accomplishments that came out of the early Dahlgren</p> |





work—the fact that people began to realize they had to have a better understanding of technical foundations—designing weapons, building them, thinking about them, getting new ideas about weapon systems. It’s impossible to do that successfully without a realization of the way in which the research in those fields is done. That’s why we had to do research. That was the biggest problem we had—was to get acceptance of the idea in the early days. I’m not criticizing anybody at all for that. I would have probably done the same thing myself if I had come up the other way, but I was trying to get accepted and other people were trying to get accepted the idea that we had to research and development in the fundamental fields that I’m talking about which is, of course, science and engineering, in order to be able to get ideas to formulate advanced systems to get them underway. That was more important than the specific things that were done in those areas. The fact that some work was possible in a military establishment, in a naval establishment, that led to improved work in the field was more and more generally accepted a result of that work, I think. Now that is a pretty broad statement. Of course, in the early days, it was a pretty limited application that I have in mind that we did what would to get accepted the thing we were trying to do. And I will say that there were quite a number of naval officers there at the time that believed in this themselves and did what they could to get a program of this kind in perspective of the founding works of the center.

The work at Dahlgren constituted, I think, the substantial foundation for the realization that a Center like China Lake was necessary. There were other things that provided a confirmation there other experiences within the Navy that provided a confirmation there; but the fact that this occurred within the Navy framework itself meant a great deal to the chance of having it set up properly. I can remember the discussions that we had when we were getting ready to set up the China Lake Center. Of course, at that time, it was well accepted that the sort of thing that had been done at Dahlgren was a beginning. You have to have starting point somewhere. It’s not kind of a weapons program but that kind of philosophy of how to do a weapons program. The philosophy of how to do weapons programs had two major periods. The first one was the Dahlgren one, and I doubt if we’d had anywhere nearly as much success with the one that came later if it hadn’t been for the Dahlgren experience although a great many people did not have that feeling or that interpretation of that early Dahlgren experience. I think it came about later that almost everyone who had seemed to have followed the Dahlgren History felt that it was an important step in getting ahead with what later became the Navy Weapons Program.

I can image how someone sitting here saying this would think, “well, why did take so long to do it? Why didn’t they get busy and do it earlier?” You had a framework there that had to be built into. We had people who came up from various experiences and had various ideas about what was necessary to do





| | |
|-------------------|---|
| | <p>good work, and they didn't agree—all of them. It took time to build this up, and it took the kind of experience at Dahlgren and at China Lake, later, to create the foundation for a successful program in weapons work. Now it is generally regarded, I think, that the weapons programs of those to centers are as good or as promising or encouraging anything we have in the way of this public facility.</p> <p>Dahlgren was a slow up-building. It took a long time to get a little bit accepted, but it did help and they got on further to China Lake. That was extremely important in building up the facilities that the military establishment had for doing that type of work. It can't be done without it. If you want a sort of a summary statement as to its significance of this kind of work, it started at Dahlgren and carried on later at other places. Its significance was not in the weapons that came out of it, although there were some good weapons; but they were sufficiently good so they caused people to realize that that kind of work had to be done, so the two are connected. You can't separate the two. Out of it all came a system for the development of weapons which absolutely essential. There must be research and development work of a fundamental sort carried on as you up and get ahead with that program. That was the part that was slow in coming at times.</p> |
| Conclusion | <p>Thank you for listening to this week's Dahlgren Centennial Podcast, and hopefully you have learned another interesting aspect of what our people accomplish for the Navy and for our nation.</p> <p>We will continue sharing how Dahlgren is a one-of-a-kind location where innovation is heralded as the hallmark of each individual.</p> <p><u>PAUSE</u></p> <p>Tune in next week to hear from Martha Slusher, a teacher at Dahlgren School from the 1960s to the mid-1980s.</p> <p>Thank you for celebrating this century of innovation with us at Dahlgren.</p> <p><u>MUSIC</u></p> |

