(November 3, 1930)

The Submarine

By Commander G. B. Spicer-Simson, D.S.O., R.N.

President Henderson:—Gentlemen, through the courtesy of the National Council of Education we are privileged in having Commander Spicer-Simson as our guest today. Commander Spicer-Simson has served in His Majesty's Navy for forty years and in that time has been in practically all the naval stations of the Empire. He has had many interesting and difficult tasks to perform and during the Great War, as Commander in the British Navy, he saw many interesting things. He has chosen for his subject today the submarine. He tells me that once in his work in the North Sea he was torpedoed, so his knowledge of the subject is a very intimate one. He has an interesting theory about the submarine warefare, feeling it is absolutely essential to keep the lines of communication open on the sea so that the submarine plays an important part. Commander Spicer-Simson, on behalf of the Canadian Club, may I extend to you a very warm welcome and our assurance that we deeply appreciate the honor you are conferring on us in being here. Gentlemen, I have pleasure in introducing Commander Spicer-Simson, D.S.O., R.N.

Commander Spicer-Simson:—Gentlemen, I feel very much honored at being allowed to speak to you. I never expected such an honor when I came over to Canada. I had often heard of the Canadian Club and the importance which it has in the social life of Canada. Now to get at my subject, since time is fairly short, your president has just told you I have a theory on the subject of lines of communication. A great many of you here doubtless know quite well what lines of communication are, though I doubt very much whether you realize the extent of lines of com-

munication. In order to give you an idea of what lines of communication are I will tell you a little story of what happened in 1918 when I had to be in the north of England. I happened to be up in Manchester and a man I met there offered to take me over a large cotton spinnery, and as I went through I observed bales of cotton being unloaded from a ship. I inquired where these came from. I was told the cotton came from India. I asked what its destination was. I was told it was to make various accoutrements, tents and in some cases explosives for the use of the troops in Mesopotamia. On arrival at the Admiralty I made inquiry as to how that particular ship had come to England. I was told she had come through the Suez canal from India by the direct route, through the Meditteranean, up through the Bay, and up to Great Britain. I made inquiry as soon as I could as to how they were sending out accoutrement to the troops in Mesopotamia. I was told they went around the cape and up into the Persian Gulf. That cotton from its production to its destination travelled some seventeen thousand miles, of which some four hundred miles were on shore. The rest was at sea. That is the navy's job, to guard those lines of communication. That was a fairly good illustration.

Now the submarine had not been used to any extent before this war. It is true during the civil war in the South there was a submarine that went out into Hampton Roads and succeeded in blowing up a federal ship but she blew herself up as well.* So we didn't learn very much about that. That is the only occasion in which a submarine had been used successfully before this war in war time. In peacetime they had shot up many targets and blown them up quite successfully. Some of you may have seen submarines but I am going to show you on the screen some pictures of the exterior and interior of submarines.

(With the room darkened, Commander Spicer-Simson then proceeded to screen his slides, the detail and history of which he described in interesting fashion. He showed the

*The successful attack of the submarine *David* on the *Housatonic* one of the nine Federal ships blockading Charleston, took place on February 17, 1864. She was swamped with all on board.

bow and the stern of the modern submarine; the engine room; the gun of the C class submarine; a German submarine; a Union Castle liner subsequently sunk; the M. class submarine.

(Showing the twelve-inch gun mounted on the newer submarine, he said: "I am sorry those guns were never fired in warfare because they were completed just as the armistice was signed. They certainly would have been a surprise to the Germans. They fired an 840 pound shell with 700 pounds of high explosive, cable of piercing sixteen inches of the best steel armor."

(He showed photographs of the K class, steam vessels, which allowed only 1 pound of water in their boilers at a time; then the periscope, and its development from the half-blind type to those now in use which permitted vision in every direction.

(Then he showed a photograph taken in the officers quarters of a British submarine when it had penetrated the German mine fields near Cuxhaven and as it lay at the bottom during an eight hour stretch. One officer was lolling back reading a book; another was sketching at a small table. One would not think, commented the commander, that at that very time they were hearing the scrape of German cables on their hull and listening to the explosions of depth charges around them.

(Then, in considerable detail, he showed the objectives and the achievements of "camouflage," or "dazzle-painting," which made a ship appear to be heading in a different direction to that in which she actually was travelling. He showed photographs of the famous submarine nets, with six-foot square mesh, one of such nets being 230 miles long. The hydrophone and depth charge, he said, were the two instruments which definitely established mastery over the submarines. "At one time in 1917," he said, "there was not enough food for the armies and population. Things were becoming serious, with shipping losses increasing, but the hydrophone was being developed rapidly, the instrument which told you there was a submarine in the vicinity. But it did not tell you the direction. Early in 1917 the directional hydrophone was developed and it solved the question, together with the depth charge."

(Commander Spicer-Simson showed photographs of the effects of the explosion of depth-charges, one such photograph showing the "lace edge" on the oil on the water's surface, which, he said, denoted the destruction of the under-water vessel. He showed a photograph of a vessel torpedoed while bringing oil from the Gulf of Mexico to England. The vessel was beached, the oil picked up, and three months later the vessel was off again for more oil. Another vessel carrying one hundred and seventy casks of oil was torpedoed and beached. One hundred and sixty-nine casks were recovered. The vessel was cut in half and a new bow built on the old stern, and off she went for duty. The *Zulu* and *Nubian* war vessels, he said, were another remarkable example of the salvage worker's skill. Both were torpedoed. But the bow of the *Zulu* subsequently was fitted to the stern of the *Nubian,* and the new vessel called the *Zubian.* She was still in service.

(The depth charge, he said, led in the destruction of submarines in the late war, being credited with seventy-nine out of the two hundred and three total of destroyed German submarines. The British Intelligence service calculated, he said, that two hundred and three U boats had been accounted for whereas subsequent German statistics showed that this figure was just two out, the actual number being two hundred and five.

"These submarines," he proceeded, "did a large amount of damage, but in future wars I do not think the submarines will have it so much their own way as they had up to the middle of 1917. Anti-submarine methods have been developed to such an extent that our lines of communication are more likely to be kept open than in the last war, though of course, the submarine has developed also, but I think the anti-submarine devices have developed more rapidly than the submarine.

I do not know what you people think about it. It is not up to me to tell you what you should do, but I feel if you want your lines of communication kept open you must help us out. It cannot be done by one country alone. I feel I am qualified to say this because I do not belong to Canada and I do not belong to England, although I am Scottish by

descent. I am from another Dominion altogether, so I feel I can speak on it impartially.

We lost over sixty per cent of all the loss of merchant vessels during the war. Some seven million tons of British shipping were sunk by the Germans during the war. The submarine menace was serious and you will realize had the Germans succeeded in cutting our lines of communication we should have been cut off from the great wheat fields of Canada. That would not only be an immense loss for the Allies but it would have been a loss for some over in this Dominion. I am quite well aware a lot of wheat rotted by the rail-side during the war for want of transportation, but that had nothing to do with the navy. We could not help that; that was up to you people here on shore. We did our utmost and we took nearly three years to learn how to do it. Once Germany realized she was losing the fight for the lines of communication at sea she realized that the war was lost and undoubtedly it was lost as soon as the hydrophone and depth-charge were discovered.

THE PRESIDENT:—Words of mine, sir, cannot express to you how much this audience has appreciated and enjoyed your remarks. The applause has indicated that. On their behalf may I extend our very sincere thanks, sir, for your very instructive and interesting talk today.