

USS GEORGE WASHINGTON CARVER (SSBN-656)

FLEET POST OFFICE
NEW YORK 09501

At Sea, North Atlantic
8 May 1966

Dear Dwight:

We have just successfully completed the first sea trials of our 37th Polaris nuclear submarine. The USS GEORGE WASHINGTON CARVER was built by the Newport News Shipbuilding and Dry Dock Company, Newport News, Virginia. We also have in operation 22 attack type nuclear submarines, making a total of 59.

This ship is named for George W. Carver, a botanist and chemurgist renowned in the annals of American scientific agriculture. The child of slaves, he did not know the day of his birth. Even the year is not certain, but he thought it was 1860. Where he was born, however, is not in doubt. In 1943, shortly after he died at Tuskegee Institute, Alabama, both houses of Congress passed, without a dissenting vote, a bill authorizing erection of a national monument at his birthplace in Diamond Grove, Missouri. In fourscore years, George W. Carver had come a long way and accomplished a great deal.

None of it had come easy. His start in life was most inauspicious. A sickly infant, orphaned before he was a year old, it seemed unlikely he would survive. He lost his father in an accident and was soon after kidnaped, together with his mother and sister, by marauding nightriders. Those were lawless times. Stealing slaves for sale to plantations in the Deep South was not uncommon. But George Carver was such a puny baby that the kidnapers had no use for him, and so his master was able to get him released in return for a race horse valued at \$300. Of mother and sister nothing was ever heard.

Hard as it was to be a slave child without kith or kin, by great good fortune his master Moses Carver (from whom he took his surname) was not a typical planter but a plain farmer, one of the so-called "Black Republican abolitionist Germans," or "lop-eared Dutch," as they were contemptuously called, who had migrated to Missouri in the 1830's. He was opposed to slavery, but he and his wife were childless and middle-aged; they needed help and servants were not to be had. So Moses bought a slave girl from a neighbor for \$700. After she had been abducted, he took it upon himself to raise her small son. Slavery ended when the boy was four years old but he remained with the Carvers and was treated much as any other farm boy. There was a lot of work to be done and George was expected to do his share. He was an especially apt pupil in all the domestic chores around the house and showed early that he had a way with growing things. People called him "plant doctor" for he could cure any ailing plant; he seemed to know instinctively what it needed in order to grow.

The boy was born with a keen mind, fantastically clever hands and so great a thirst for knowledge that no obstacle could bar him from obtaining an education. Of rebuffs he suffered many, but he was also often given a helping hand. The free school nearby was barred to him, whereupon Mrs. Carver gave him an old blue-back Speller and with her help he taught himself to read and write. Thereafter he was hardly ever without a book in his hand. He would prop it up while he washed and ironed, these being some of the chores that earned him a living while he gradually accumulated school credits.

At 10 he decided he must find a school and so he left the Carvers, all his possessions in a small bundle over his shoulder. Thus began an Odyssey that was to take him in short stages northward geographically and upward educationally. At several critical times during his 30-year quest for an education, luck or his pleasing personality, or perhaps a combination of both, brought him into contact with warmhearted childless couples who gave

him the concern and care usually found only in one's own family. With a few he stayed but he was never a burden. He earned his keep for he was a prodigious worker, determined never to accept charity.

George Carver literally inched himself up the educational ladder, working his way not just through college but through grade and high school as well, working all the time to support himself. He was 20 before he got to high school, 25 when he graduated. Highland University accepted his credentials but when he presented himself, he was told negroes were not admitted. He was 30 when he finally entered Simpson College in Iowa. A year later, he entered Iowa State University, graduating with a Bachelor of Science degree in 1894. Invited to become a member of the staff in charge of systematic botany, the bacteriological laboratories and the greenhouse, he continued his studies and received a Master of Science degree in 1896. That year, he was invited by Booker T. Washington to organize and direct a new agriculture department at Tuskegee Institute in Alabama. There he remained the rest of his life.

From earliest childhood, Carver had the habit of rising at four and walking about the countryside for an hour or two. Soil, plants and trees interested him intensely; he wanted to know how they were put together, what made them fruitful. Nature was both a consolation and a challenge. In Tuskegee, he found the land exhausted from one-crop cotton culture, robbed of its mineral content, eroded from lack of plant cover, treeless and sun parched. The campus was bare earth, dusty in dry weather, a sea of mud when it rained. He went about looking for ways to restore the overworked earth and found it in green manure and the growing of nitrogen-producing legumes--pod bearers such as vetch, peas, clover, peanuts--plants which enriched the soil. Crop rotation which European peasants had practiced for a thousand years had to be relearned by Southern tenant farmers who knew no other crop but cotton. Carver went among them preaching diversification. He urged them to grow peanuts and sweet potatoes; those who heeded his advice rode out the disastrous invasion of the boll weevil.

On the experimental farm he developed at Tuskegee, he evolved a cross between the short-stalk and the tall-stalk cotton known as "Carver's Hybrid," besides three other new strains. With green manuring, he grew enormous potatoes, cabbages, onions, watermelons and cantaloupes. He instituted a visiting day each month for neighboring farmers to show what could be grown with scientific methods. They were most impressed with his new cotton strain which carried 275 huge bolls on a single bush, and yielded nearly a bale and a quarter per acre, in contrast to the usual one third of a bale most tenant farmers produced.

To bring the message of scientific agriculture to those who could not come to Tuskegee, Carver loaded a wagon with tools, boxes, jars and packages of seed and set out every Friday evening after class to give demonstrations to meetings of farmers. In 1906, with money donated by Morris K. Jesup, a member of the Slater Foundation, he designed the so-called Jesup Wagon which served as a movable farmers school and was adopted in other countries.

Carver's skill as soil scientist and plant breeder was to him but a means to help raise the standards of the Southern farmer, not just in productivity, but in his whole way of life. It was obvious to Carver that the prevalent diet of pork, meal and molasses lacked the vitamins and minerals necessary for good health and stamina. So he urged farmers to grow more vegetables and fruits, showed them that many common weeds, properly cooked, were edible and nutritious, taught their women how to prepare them. His own boyhood had been spent on a multipurpose farm where everything the family needed was grown and processed, only sugar and coffee being bought. He called this "living at home" and preached it throughout the land. By avoiding store purchases, a little could be saved each week

and eventually a piece of land bought. This, he said, was the way out of poverty. Tenant farmers lived in drab cabins. Noticing the beautifully colored clay in which Alabama abounded, Carver developed a simple method for making color wash and demonstrated how much even the shabbiest cottage could be improved by a paint that cost not a penny.

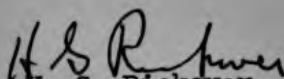
Carver is best known as a pioneer "chemurgist"--a word, coined by Dr. William J. Hale in 1934, which means chemistry at work. In his book Pioneers of Plenty, Christy Borth called Carver "the first and greatest chemurgist." Carver made paper from Southern pine "at least a quarter of a century before Dr. Charles H. Herty tackled the problem," and synthetic marble from wood shavings "years before a rocklike plastic made from wood waste became a chemurgic promise." He saw promise in the peanut when it was still a lowly weed growing along fences and tolerated by farmers only because their children liked its taste. From the peanut and the sweet potato, Carver developed more than a hundred different products, including plastics, lubricants, dyes, medicines, ink, wood stains, face creams, tapioca and molasses. He developed these in his laboratory at Tuskegee which he had put together out of odds and ends salvaged from scrap heaps.

When he first arrived to take up his post, he discovered there was no money to equip a laboratory. In the course of his life, necessity had made him a genius at making do out of nothing. He and his students made the rounds of the rubbish heaps on campus and in town. They collected bottles, cut their necks off evenly and turned them into beakers. A thick, chipped teacup became a mortar, a piece of pipe the pestle. An old ink bottle with a wick made of string stuck through a cork became a Bunsen burner. Pieces of tin were punched and became sifters. Reeds served as tubes to transfer liquids. Carver had brought with him the one indispensable and costly thing not to be found on scrap heaps: a microscope. It was a parting gift from colleagues at Iowa State.

The products of his laboratory made his name known and brought him tempting offers of positions in industry, and checks for advice that had been sought from him. He politely declined the positions and returned the checks. He had no interest whatsoever in money and could not be bothered with the problem of marketing his inventions. His head was too full of ideas for new products. Advice, he thought, should always be free. He hoped it would reflect favorably on people's attitude toward his race, if he helped others with their problems. His own needs were minimal. Indeed, out of a salary of \$1,500 a year at Tuskegee, he saved \$33,000 which he donated to the Carver Foundation for creative research in chemistry.

Many people from all over the world sought out this shy and retiring man, wanting to talk to him and to observe his work. Edison, Henry Ford, Theodore Roosevelt and other important men became his friends. Honors and honorary degrees came his way. One was the Roosevelt Medal for distinguished service in the field of science (1939). He was introduced to the dinner guests in Theodore Roosevelt's New York home with these words which are a summing up: "I have the honor to present not a man only, but a life, transfused with passion for the enlarging and enriching of the living of his fellowman."

Sincerely,


H. G. Rickover

Mr. Dwight A. Ink
Rockville, Maryland