
CONSERVATION IN TIME OF WAR

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Man does not live by material things alone, but he cannot live without them. Natural resources are the instruments of war and peace alike. The human spirit cannot, whether in peril or in safety, come to its flowering unless nourished and supported by material substance.

One shot from a large-caliber gun requires a bale of cotton or its equivalent. Sometimes this represents a year of effort for a farm family. The manufacture of sufficient explosive for such a round of ammunition requires somewhat more alcohol than can be produced from three hundred pounds of sugar. A man who had the income from the price of a good bomber could retire and live in considerable comfort. The tires for one type of modern tank require enough rubber to supply sixty peacetime automobiles. Only four of our greatest universities have sufficient endowment to pay the cost of a single, first-class modern battleship. Oberlin might perhaps be turned into a modest small cruiser.

We have all heard such facts, and many more like them, during the past two decades. We have been told these things to remind us that war is evil, which we all know anyhow. But we have also been told these things by those who wished to see the United States unprepared when war came. It is a doubtful enough expedient with children to tell them to stay away from evil and ignore it. With responsible adults such counsel is itself evil. Adult individuals, like adult nations, have to face issues and cope with them as well as they can.

Now we are moving into the thick of battle, and we have no choice, whatever the cost, but to see it through. We have to learn, the hard way, that war is the certain fruit of rotten and slovenly peace. Unless we win, at whatever sacrifice of wealth and lives, nothing we own will do us much good. Worse, we shall have lost the freedom and self-respect which mean more than wealth or comfort. Whenever any nation comes to feel that nothing whatever is more important than remaining alive and physically comfortable, then that nation does not deserve to remain alive. It has become a sort of human sty whose inmates crouch brutishly at their troughs, oblivious of the coming slaughter.

War strips the human character to its essentials, revealing the best and the worst. Courage, loyalty, and steadfastness are the prime virtues of war, as of peace. But character barehanded cannot win a war, any more than character without equipment can build decent communities and homes in peace time. The human brain is helpless unless human hands have the stuff to work with. We need materials. We consist of material stuff. Every breath we draw is literally an interchange of our own materials with those of the atmosphere. This ocean of air, with the earth beneath our feet, and the water which permeates both, are the

reservoirs out of which all of us, from Michael Angelo to Weary Willy, are organized. If you think I exaggerate the importance of material things, try putting yourself on a diet which has no vitamins in it, and see what happens to your spiritual qualities in about three weeks—if you can trust your judgment at the end of that time.

We cannot respect ourselves unless we respect the materials which make our existence possible. The first sign of disintegrating character is often to be found in the material things about an individual. Where there is contempt for material things there is likely to be contempt for human beings.

Americans are often accused of paying too much attention to material things. We are skillful in producing them, no doubt of that, and we enjoy having them. But I do not believe that we worship them. We do not even respect them as we should. We let them get in our way, and we waste them. One of my friends complained that he could never get down cellar because of the stack of broken vacuum cleaners, mixers, floor lamps and toasters which filled the basement entrance. During the first World War, the thrifty French were appalled at the extravagance of Americans with their equipment. As I recall it, one French balloon company was able to maintain its gear in good condition on what a nearby American outfit discarded. If we are going to win this war, and if we are going to have enough left over for a decent civilization when it is finished, we must change our way of thinking about things, and about the materials from which they are made.

We are pitted against an enemy whose resources do not equal our own. He has prepared for this war, to date mainly successful, on a scale not less than heroic. In this stupendous preparation two very different things have been involved. We must be careful not to confuse them. One is ruthless and beastly oppression. We hate it, and want none of it. The other is the massive folk-strength of the German and Japanese people, now so sadly perverted. At its best, this folk-strength, with its scrupulous respect for material things, thrift in their use, and wise thought for the future, is something we ourselves very much need.

Until 1900, Germany taught the world science, and Japan was her readiest pupil. We too, learned much from the Germans. At no time have we been slow to use scientific knowledge in the actual production of goods, and in that respect we have equalled or surpassed our two leading enemy nations.

In one great and costly respect, however, we have failed. We have used science freely when we could see the chance to make it pay returns here and now. We have not used it to safeguard a future permanent supply of raw materials. Getting immediate profits is always somebody's business. Looking out for the future is everybody's business. The chemist's advice has been eagerly sought and well paid for on production problems. His warnings about building up a war-reserve of rubber and tin were not heeded. In his former role he is the equal and confidant of men of affairs; in the latter, when he attempts to advise on public policy, he is like a child waving at an express train. Our criminal negligence in matters beyond the realm of immediate financial return is one of our worst faults and has made us exceedingly vulnerable.

In 1891 a young American about to enter the steel business was in Germany training himself as a metallurgist. In the course of his travels he came to Essen, where the great Krupp works were located. This was the Pittsburgh of Germany. His attention was particularly attracted by the river which flowed through the city, right past the zone of heavy industry. This stream was as pure and clear below as above the city. Mindful of the once-beautiful streams of his native Ohio, which were by that time foul open sewers, full of poisonous waste, he complimented his German hosts. "Why," was the reply, "we could not afford to have it otherwise. We have seen the streams in the United States, and we cannot understand why you permit such things to happen."

The God of War has an insatiable appetite, not only for the lives of men, but for the physical resources essential to existence. The Civil War left the southern states gutted, physically as well as spiritually. Soon after the time of Charlemagne, Europe was stripped of its forests, save for the hunting preserves of the great. This devastation was accomplished, less to furnish timbers for the arts of peace than to furnish charcoal for the steel which was the instrument of conquest. The First World War made tragic inroads upon our soil and our forests. Today, in Ohio and throughout the nation, the privately owned woodlots and forests are being wastefully slashed to the ground. Cherry and hard maple are being used for charcoal. Fine ash, much needed for handles and for the ribs of airplane tanks, is being used for mine-props; white oak, essential to shipbuilding, is being cut for use in smelters. And we have the assurance of the Chief Forester of the United States, in his last report, that this is not only wrong but wholly unnecessary. No wonder that he sees no hope save in vastly extended government ownership and severe regulation of private operations. The grave of private ownership is being dug, not by Marx and Lenin, but by those who refuse to accept the responsibilities, along with the privileges, of private ownership.

I happen to believe in private ownership, for to me it represents a hard-won human right. It seems idle to talk of human versus property rights without being more specific. During thirty years of work at my profession, I have been able to accumulate very little private property. Recently, thanks to the thrift and good fortune of others, I have come to be the custodian of some private property. This much I see clearly about it. Its value to me, and through taxes to the community, is in direct proportion to the conscientious stewardship that has been given to it. The moment that such stewardship ceases, it will become a liability to its present custodian and to the community.

No matter how you magnify or diminish the scale of operations, in war or in peace, this same principle holds. The destiny of man, in any sense that I can understand it, is inextricably twined into that of the material world around him. It makes little difference to what material resource one turns for illustration.

The chain of stewardship may be long, and consequences remote. Or the reverse may be true. In either case the chain is continuous and effect follows cause. Today's dispatches contain the seemingly insignificant governmental announcement that bee-keeper's supplies have been given a high priority rating, indicating that they are important in the prosecution of war. At first guess this would seem to be due to the fact that honey is an important substitute for sugar. Actually beeswax, in whose production the bees use 14 pounds of honey to make one of wax, is far more essential. On the average, every defense machine requires ten pounds of beeswax, for which there is no substitute save materials produced in the Malay region and not now available.

But the most vital importance of fostering the bee industry lies in its relation to the nitrogen supply. Nitrogen is an indispensable part of fertile soil, for without it there could be no protein foods to replace the wear and tear of living. Nitrogen is equally essential in the manufacture of explosives, not to mention dyes and plastics. Modern war is insatiable in its demands for nitrogen and will take all it can get.

Unless fertilized, poor soil shows nitrogen deficiency the first year, and the best of soils in three years. Now clover is a prime means of restoring nitrogen to the soil. On its roots live bacteria which can turn the trick by taking nitrogen from the air and fixing it into usable form. Clover is a potent substitute for the electric furnace and for expensive nitrate minerals, releasing them for war time use.

But clover must be grown from seed and the successful production of clover seed has proved to be one of the costliest, trickiest operations on the farm. The stuff may sell for \$12 to \$25 a bushel, because the crop is erratic. This is so because the distribution of honey-bees is erratic. Seed only forms when there are bees to

pollinate the plants. A good collection of bees can insure pollination on a hundred square miles of farm.

Why, then, are there not plenty of bees on our farms? The answer lies largely in a single word—carelessness. Bees are subject to a fatal infection known as foul brood. This is carried by bees who rob diseased hives of their honey. Robbing is a habit, largely preventable. The honey left in hives dead from foul brood should be promptly destroyed and the hive fumigated. The state employs inspectors who will do this without cost. But these inspectors are helpless and the most carefully managed apiaries constantly in danger because many bee-keepers will not take the trouble to report dead hives or attend to them personally. With co-operation, this disease could be stamped out in a year or two. No man, not even a whiskered hermit bee-keeper, liveth unto himself. The chain of stewardship may be long, but it is unbroken.

Water is a more obvious and spectacular resource than the honey-bee. Unending is its majestic round from sea to cloud, down to earth and back to sea. For us the precious phase of this cycle lies between raindrop and ocean. We and all our works are maintained by rain and snowfall on its deliberate course back to the ocean. In proportion as this movement is leisurely, water finds expression in life and industry. When this movement is unregulated, life is scorched, industry thwarted, and the very earth stripped bare by rushing flood.

Today the expansion of war industries is definitely limited by available water supply. The Youngstown area, home of Little Steel, cannot increase its production without more water. Each ton of steel requires some three hundred tons of water. There is plenty of rainfall, but bare hillsides and farms that have been wrongly handled will not hold it. Floods in the Ohio area are three times as frequent since 1900 as before. This flood water is needed desperately on farm and in factory, and by proper land use could be retained. Without such land use, even reservoirs are no good, for they soon wash full of farm soil.

Our proud highway system contributes to this famine. Each is a watercourse built without any thought save to get the water away and into rivers as fast as possible. Here again the chain of stewardship is long, but this chain leads in the end to our giant smithies which forge the arms of war and the instruments of peace.

Recently I sat with a small group of experts on various types of natural resources. The meeting was completely unofficial and all came at their own expense. Formalities were done away with and every one got down to brass tacks. Each man was asked to give the immediate practical obstacles to proper conservation in his own field in the state of Ohio.

We found that defects in the state civil service system kept the public from being as well served as is business or several neighbor states. We found that the budgets for research and protection of public health were pitiful beside those customarily allowed by business for the same purposes. But to our comfort we found that no one thought the remedy lay finally in either legislation or money—the two sovereign American remedies for everything from alcoholism to foreign relations.

The core of the business lies in education—of leaders, of average adult citizens, and of school children. And the end of this education lies, not in fostering bureaucratic control and vast public enterprise, but in helping individuals and local communities to help themselves.

For conservation, when all is said and done, whether in war or in peace, is not a scientific trick or a police job. It is a way of living. It must be in the air. It must be an article of faith which looks on material things with the respect and jealousy which they deserve—not as ends, but as essential, inviolable means to survival and beyond that to the good life.