The Science of Revolutionary Warfare

Johann Most

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Contents

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INTRODUCTION

Few students of turbulent politics fail to look backward to the anarchist activities during the last half of the 19th century and to one of the formost promoters — a man by the name of Johann Most (1846 — 1906).

His most controversial work "Revolutionäre Kriegswissenschaft" (Military Science for Revolutionaries) has been wrongly credited by some writers as his contribution to the American anarchist movement. While written in America in 1884, it was directed to the German and Austrian anarchist, who were largely from the working class as opposed to their Russian counterparts, the Nihilists, who had many highly trained technicians.

Most, originally a printer & bookbinder, was run out of Germany in 1878. He next went to England where he endeared himself to the English people by advocating regicide (the killing of kings). The English, typical of their dry sense of humor, rewarded him with a long sentence at hard labor.

Seeking a more compatible environment, Most emigrated to America in 1882 where he went to work in an explosives plant in New Jersey! It was here that he obtained enough "nuts & bolts" knowledge of explosives to write this handbook as an aid to his comrades in central Europe.

Today, the importance of explosives as an instrument for carrying out revolutions oriented to social justice is obvious. Anyone can see that these materials will be the decisive factor in the next period of world history.

It therefore makes sense for revolutionaries in all countries to acquire explosives and to learn the skills needed to use them in real situations.

It seems to us that far too much time and money has been wasted on false approaches to this objective.

Many people obtained expensive text-books meant for professional chemists and not for the layman, and were unable to understand them.

Some individuals may have learned a little in this way, especially in cases where they were able to consult an expert. Everything learned is worth something, so their time was not entirely wasted.

We, along with some other people, went a step further, and arranged for popularized versions of technical papers on the production of explosives to be published. However, we found that these also were not well understood.

Here and there, people started experimenting on the basis of this material, but the results were usually not very encouraging.

The equipment they worked with was expensive and fragile, and easily damaged beyond repair when used by unskilled people. The necessary raw materials, when bought from ordinary retailers, usually turned out to be of inferior quality. Upgrading or purifying these raw materials would once again have called for expensive equipment and economic demands beyond the means of the man in the street. It would have been still more difficult to make the materials, both for financial reasons and due to the lack of expertise. We do know some people who have made something resembling gun cotton. Some have even succeeded — after their fifth or sixth mixing rig blew up — in making small quantities of nitroglycerine, and converting it into dynamite.

These fortunate ones were then faced with the fact that all their efforts and sacrifices had resulted in something of theoretical value only, since one cannot accomplish much with small quantities, and the method was too expensive anyway.

To manufacture large quantities of dynamite, one must have a rather expensive setup. Several rooms are needed, so it cannot be done in a private apartment. In fact, it is necessary to locate the work-shop away from any neighbors, because dynamite manufacture produces a strong smell that would soon betray the operation.

Although people have not given up experimenting, we conclude that the demand for dynamite and other explosives required for revolutionary purposes cannot be met on a do-it-yourself basis, and that it is a much better idea to obtain it ready-made, from regular industrial sources.

Not an ounce of the dynamite that has actually been used by revolutionaries anywhere in the world was home-made. Imperial, royal and republican (government) arsenals have had to do the providing. No matter how well-guarded they are, the authorities can never completely prevent the disappearance of some of their stores, generally before the material is actually delivered and locked up in the arsenal.

On the other hand, dynamite is used for many purposes, so that it is nonsense to believe that it cannot be obtained from conventional suppliers.

Everything can be had for money, and that includes dynamite. Revolutionaries with money will be able to get it, and without money they can neither buy it nor make it. So the slogan is, "Save your pennies!!" You may object that nothing can be made out of nothing, and that resources are in the hands of others. This becomes a question of appropriating them…

Once we are in an era when things are really happening, it would be stupid to consider amateur dynamite production. Dynamite factories and explosives warehouses can be seized just like anything else. The skilled workers there would work just as well for us as for anyone else, if we pay them properly.

Summing up, we shall from now on not focus our attention on making dynamite, about which there has been so much talk and so little to be seen, and occupy ourselves with how to obtain large quantities of ready-made dynamite.

For the sake of completeness, however, we plan to include a description of the simplest methods of making explosives. For the moment, we propose to discuss a much more important aspect: the effects of explosives, and how to use them. A great many mistakes have been made in this context, through ignorance.

Many people believe that dynamite is to be handled like gunpowder. They try to make it explode with a simple fuse, or even with relatively crude kindling materials. It's not so bad when they try this experimentally, because then they see that it doesn't work. The worst situations arise when they attempt this as a part of a serious action, resulting in a fiasco.

It is indeed possible for dynamite to explode when exposed to hot sparks, flames, or a burning fuse, but it happens so very rarely that this procedure is not worthy of consideration as an explosive technique. When dynamite comes into contact with flames or a glowing substance, it usually catches fire and burns up, without any other result.

A violent shock or jolt is the only reliable way to make dynamite explode. For this reason, one should be cautious when trans-porting it, avoiding sharp jolts and careless handling. This doesn't mean that dynamite will inevitably explode if it gets banged around a little. You could, perhaps, throw a pound of dynamite against the wall 99 times without any trouble. Accidentally knocking it off the table, so that it just drops to the floor, might then cause an explosion.

When frozen, dynamite is less able to withstand shocks, i.e. it explodes more readily than when it is not in a frozen condition. Note that dynamite freezes at a relatively high temperature, at which water is still completely fluid. On the other hand, dynamite can tolerate quite warm temperatures, without any danger of exploding. The heat woud have to become intense — corresponding to the temperature of the metal shelf in a heated oven, before one might expect an, explosion.

Dampness has no effect at all on dynamite, as its main component (nitroglycerine) is extremely fatty.These preliminary notes should be sufficient for the layman. Now we can move on to the main subject.The simplest and most reliable way to make dynamite explode is to use blasting caps, which are obtainable from all suppliers of explosives, guns and ammunition. They are round, and their size is the same as that of the drawing.

End "A" is open, and the other end "B" is closed. The space labelled "C" is filled with a mixture of fulminate of mercury and potash.Introduce the fuse into the open end "A" in such a way that it rests directly on the filling "C". Crimp the rim at the open end "A" tightly, so that the fuse is held tightly and can no longer slip out: use a pair of pliers, or your teeth.

For all important projects, it is advisable to use nothing other than top quality fuses. this item looks like grey string, and is about the same size as the inside of the blasting cap tube. The combustible core of the fuse is covered with a tough, woven material, which makes the fuse seem as hard as wire.

This kind of fuse has its own protection against a certain amount of dampness. Due to the fabric covering, it is not easy for the core to get really wet from the outside. If you also apply a coating of tallow or tar, carefully rubbing it in, moisture of any kind will be prevented from affecting the ability of the fuse to bum reliably. To remove the last element of doubt, the fuse can be put inside a rubber tube.

Incidentally, it is not advisable to spread out fuses over long distances. If precise timing of the explosion is required, and you wish to accomplish this from a considerable distance for safety reasons, it is always preferable to use the electrical method, with wire and a battery. More about this later.'

If you set the charge and only need a few minutes to get to safety, a length of six to eight inches of fuse will be sufficient, with a piece of kindling material (about one and a half inches long and one third of an inch wide) attached to the free end; it should be tied on with thread.

If you want to throw a bomb without being able to use a percussion detonator (these also will be dealt with later on), you should, of course, only use enough fuse to burn while it is being thrown. In this case also, six to eight inches should be quite sufficient. Anyone can check this out by throwing blank bombs that only have the fuse and cap. The fuse length depends on the distance and throwing capability of the user.At this point, we need to indicate in general terms how to apply the cap and fuse to the dynamite, so that it will explode.

The bomb casing, blasting charge contain-er, or whatever else the explosive is packed in must be sealed on all sides, and needs a round hole through which the closed end “B” of the blasting cap can be introduced. At least half the length of this cap should intrude right into the mass of the explosive itself, but the cap should not be pushed in so far that the fuse also comes into contact with the dynamite. If that happened, it would be possible for the dynamite to catch fire as described above, and simply send a sheet of flame out through the hole, with exploding. This could also happen easily if the explosive is loose in the container, not filling it properly. If the explosive is packed in tightly, this type of failure cannot happen easily, even if the other instructions are not complied with fully.

The following sketch makes the matter completely clear.

D = Dynamite K = Blasting Cap Z = Fuse

As soon as the fuse bums down to the fulminate of mercury filling is the cap, this filling explodes, inducing the simultaneous explosion of the dynamite, releasing all its energy.

It is also necessary to fix the outer end of the blasting cap in the hole in the casing as firmly as possible, either with tiny wooden wedges or by wrapping thread around it, so that it is jammed firmly in position.

Before inserting the end of the fuse into the cap, one should always cut off a small piece of fuse with scissors or a sharp knife, as the combustible core in the loose end of a (stored) fuse could crumble away in the course of time, making it unreliable.

In important projects, double checks are always better than single ones. If you want to avoid any possible failure of cap or fuse, it is best to install two of them. Also, note that the fulminate of mercury filling is often located quite loosely in the cap, and can easily fall out before use. One should there-fore check each cap carefully. If it is empty, one can see the sheen of the copper end-face inside; a loaded cap shows a grey surface.

Everything stated here about the characteristics of dynamite, and how to make it explode, also applies to nitroglycerine. The difference between these materials lies only in the fact that nitroglycerine has far more ex-plosive power that dynamite, because the latter in its most concentrated form only contains 75 — 80% nitroglycerine, the rest being pulverized charcoal (made from wood), sawdust, chopped paper, etc., serving as a binding agent.

The power of a given quantity ‘of dynamite is often overestimated. Also, mistakes are often made in the way it is applied to the target, because the layman is often ignorant of the particular characteristics of the explosive. This is especially true when the user attempts to go into action with dynamite without experimenting beforehand and thus learning how to handle it. This imparts special importance to the following notes.

The effectiveness of dynamite is due to the enormous speed at which it explodes, and it is most devastating in the direction where it finds the most resistance. Everyone should be sure to learn this, above all else.

For example, if a dynamite blasting charge is simply placed on the ground and detonated, it will just make a hole in the ground. On the other hand, if you set the charge at the foot of a wall, the effects will be maximized in the direction of the wall.

If the explosive is surrounded on all sides with highly resistant materials, for example a steel container, the most significant blasting effect will still be in the direction of maxi-mum resistance, i.e. toward the surface to which the container is attached, or on which it rests. Note that a considerable part of the explosive energy is consumed by the destruction of the container, that is, in overcoming the resistance it presents.

It is therefore unwise to select an extremely strong container for blasting through a wall from the outside. An ordinary can made of thin sheet metal is preferable for such jobs.

The opposite is true if you want to cause maximum destruction in all directions, for example, inside a house — and particularly in the middle of a large group of human targets for a dynamite attack. In such cases, the stronger the outer casing, the better the results.

These two aspects — maximum blast in one direction only, and equal effectiveness in all directions — therefore call for different treatment.

We shall begin by considering explosive devices which are effective in all directions, which we will simply call "bombs".

The best shape for a bomb is, and always will be, a sphere. This is because the resistance of the casing is homogenous, and so the explosive effect will be the some in all directions.

Where can you obtain such hollow spheres? The best ones are made of iron, and you could have them cast at a foundry. However apart from the matter of finding the necessary cash, there is also the question of security. If the people at the foundry are not loyal comrades, there is the possibility of betrayal.

Hollow spheres made of zinc are quite suitable, and have the advantage that they can be made in an ordinary apartment. However, we recommend that people who want to do this should still have a brass mold (for half of a hollow sphere) made by an expert. Once you have a mold, it is an easy matter to make fifty medium-sized half spheres in a day. Then you solder two halves together, and the bomb casing is ready; any plumber can show you how to do this soldering. The bomb needs a filler opening of about 3/4 inch diameter. After drilling, cut a thread in this bore so that a plug of iron or brass can be screwed in. If you are not in a position to use a percussion fuse due to the complications involved, and you plan to use a combustible time fuse and blasting cap as described above, drill a hole in the plug just large enough to admit the cap (not larger!). After fixing a six to eight inch length of fuse in the cap, as described above, pass the fuse through the hole in the plug and insert the outer end of the cap in the hole, fixing it there, in such a way that about three quarters of its length protrudes toward the inside of the bomb. Once the casing is filled with dynamite, screw in the plug — firmly — and you have quite a respectable bomb at your disposal. All you need to do is light the fuse and throw it.

The hollow sphere we used (made of zinc as described above) was four inches in diameter, with the casing half an inch thick. This holds a charge of half a pound of dynamite. We didn't throw it on account of the weight, but we have found out that a bomb of this size can be thrown about fifty paces, if it has to be done. The object of our experiment was to find out just how powerful a bomb like this would be. We placed the bomb on the ground and rested a slab of sandstone on it, about four inches thick and with a top surface of about five square feet. Some kindling material was attached to the fuse, to make sure we had time to get to safety. The effect was tremendous; The noise was similar to the explosion of a heavy artillery shell. The block of sandstone was shattered into about 20 pieces, which were thrown at least 10 — 15 feet in the air. The hole in the ground was about two feet in diameter and of the same depth. It was difficult to find remnants of the bomb. After considerable searching, we found several pieces, around 30 — 40 feet away. They were about the size of revolver bullets, and had very jagged edges.

Just imagine this bomb had been planted under the table at a high society banquet, or had been thrown through a window onto their table — it would have achieved wonderful results!

Here is another way to make bombs: take a piece of iron pipe, as commonly used for water or gas mains, and cut it into short lengths. For home-made "hand-grenades", six inch lengths of pipe of one and a half to two inches diameter are suitable. Cut a thread at both ends, on the outside. The ends can then be closed off with threaded iron end caps. Drill a hole in one of the end caps for the cap and fuse, or other detonating device. The bomb can then be prepared just like the spherical kind; an open end of the pipe serves as the filler hole.

We carried out tests with these bombs, also, and the results were always satisfactory.

It should be clear to everyone that such devices are easy to make, and not expensive at all (which is very important for us), and that they can achieve spectacular results when used against large assemblies of people (riff-raff of the upper-class variety).

On the other hand, no one should be under the illusion that they can be just as successful with simply placing one of these bombs in front of or even just inside a house. Unless the human targets accidentally come close to the bomb as it explodes, nothing much will happen. A few broken windows, splintered doors and steps, some chipped masonry and a loud bang are all that can be expected.

Even ordinary houses are so resistant to such mini-explosions that they will not col-lapse, and it follows that public buildings, churches, palaces, etc., are fully able to withstand them. To deal with these buildings, you need entirely different quantities and a different technique.Before we get into the subject of large-scale dynamite operations, we shall "deal with percussion detonators for bombs.

There are, for example, 3-cornered and 4-cornered bombs (i.e. pyramid-shaped and cubical) which always land with one of their faces touching the floor.

If each of these four or six faces has one or more activating pins screwed into it, each of these pins with a percussion cap of the kind used in pistol or rifle ammunition, then at least one of these caps will explode when the bomb hits the ground. But, if the bomb lands on a soft surface such as damp earth, sand or clay, it may just sink in without going off — simply because a surface like that gives way instead of providing enough resistance.

To rig bombs of this type with a dynamite charge, it is necessary to attach blasting caps to the inner ends of the pins. These pins have a hole drilled through them from end to end, the bore at the inner end being just large enough to accommodate the blasting cap. This blasting cap must be fixed on very firmly, so that it cannot fall off on impact before the percussion cap on the outer end explodes — if that happened, the bomb would not explode. Fill the hollow part of the blasting cap with a substance which will conduct the in-coming ignition to the fulminate of mercury. The simplest method is to fill it with fine-grain gunpowder.

Those who think they can get along with-out blasting caps on the inside end of these activating pins are ignorant of the peculiarities of dynamite, or are confusing it with other explosives such as gunpowder or fulminate of mercury.

If the bombs were loaded with a charge of one or the other of these materials (as the main explosive), then a simple activating pin with the exterior percussion cap would be adequate, but not when the main charge is dynamite.

We assume that it will be dynamite, because gunpowder does not have enough blasting power, and fulminate of mercury has too much. This "too much" should not be misconstrued.If the bomb casing is not very thick indeed, a main charge of fulminate of mercury would disintegrate it into a vast number of tiny particles. These would certainly cause injuries to exposed faces and hands, but would not penetrate clothing very easily. A person hit by these fragments would not be killed.

Apart from them, the blast wave (air pressure) itself could still be fatal if the bomb explodes very close to some one, but it is more likely to just knock people down. To make this explosive effective, the bomb casing would have to be very solid indeed. A cast-iron bomb with a capacity of eight cubic inches would need to be at least half an inch thick. Larger bombs would have to be correspondingly thicker. This makes the object to be thrown very heavy, and this would clearly detract from the effective range and the safety of the user.

The well-known "Oraini bombs" which were spherical and fitted with numerous activating pins and caps, contained too much fulminate of mercury in relation to casing thickness, and were therefore inefficient.

In addition to these considerations, note that filling a bomb with fulminate of mercury is extremely hazardous unless it is done very carefully indeed. This will be explained later, when we describe how to make and use fulminate of mercury. This material is also much more expensive than dynamite, and harder to store.

Apart from that, our opinion is that these bombs are relatively impractical and hard to make, in comparison with the spherical or cylindrical "hand grenades" we have described above. If you do not want to use a time fuse or multiple detonators, it is possible to make bombs needing only one percussion device. Just make the casing thicker and heavier at the place where this one detonator is installed than it is anywhere else, either by designing the mold accordingly, or by pouring molten lead into the appropriate area. The law of gravity will then see to it that the bomb lands on that side, where the percussion cap is.

For this type of project, we strongly recommend casting an egg-shaped casing, with double thickness at the broad end (as compared with the narrow end). But, what-ever refinements you impart to this kind of bomb, you cannot avoid its inherent disadvantages. We believe that a bomb with nothing more than a properly installed blasting cap and combustible fuse is more practical and reliable. However, we know that frequent use is still made of the activating pin type, so we had to include it.

Everything we have said about that type of bomb applies to all similar systems using firing pins of one kind or another. We do not recommend them, due to difficulties in making them and uncertain performance.

The best and also the simplest impact detonator for bombs designed to be thrown can be made in the following way:

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