ROBERT LAZZARINI

jam shot

Cover:
***safe* (blown),** 2011
Installation view

ROBERT LAZZARINI

jam shot

Previous page:
***shotgun* (sawed off)**, 2011
metal and plastic
12,7 x 55,88 x 12,7 cm / 5 x 22 x 5 inches

Right:
***shotgun* (sawed off)**, 2011
Installation view

SOFT COLLAPSE: THE WORLD AS EFFECT
ON THE WORK OF ROBERT LAZZARINI.
BY MAGDALENA KRÖNER

Robert Lazzarini's objects are invalids. They might have suffered some complex damage or better: a transformation whose origins remain obscure, with its traces remaining evident. What is presented to the viewer are recognizable tools, weapons, boxes of bullets; in short, remnants of everyday life which are easily identifiable. At the same time, the objects seem to be like three-dimensional shadows of their former existence, distorted and warped. They equally challenge the boundaries of materiality and perception, appearing intrinsically changed, but not merely deformed. The transitioning they've undergone is a fundamental one, achieved in a complex process of formal analysis, mathematical distortion and true-to-the-origin recreation.

Still, the knuckles, revolver, and safe are made of familiar materials which do not readily lend themselves to such deformation: steel, wood and brass. The objects seem to have suffered a massive physical trauma; or perhaps they are the results of a transubstantiation of thought, as though the effects of a hallucinogenic drug like LSD went beyond distorting the subjective appearance of things to the brain of the beholder to include the direct translation of their fantastic forms into reality. Things swell and contort as though they were inventions out of whole cloth, but they retain the original proportions. Lazzarini's approach to sculpture suggests where his oeuvre can be located: it is as much informed by Baroque painting featuring daring first planar distortions as it is by Pop Art's way of incorporating everyday objects and Minimalism's factual interest in the relation of object and world.

The interest in the distortion of everyday objects has been palpable in art before—especially in the era of Pop Art. Think of César's melting plastic, evoking endless varieties of biomorphic shapes in its artful decay; think of Claes Oldenburg's giant soft shapes. But where Oldenburg's process of blowing up and melting things was deeply rooted in theatricality and performance, in Lazzarini's work a classic sculptor's sensitivity prevails. Although his objects are founded on original materiality, they bring about a fundamental irritation of perception. His artifacts remain as legible as an Oldenburgian "Giant Soft Fan", but they reach out into the uncanny, the uncomfortable and confront each viewer with the limitations of his cognitive and perceptive abilities, rendering them questionable. The viewer's perception insistently tries to unbend these changes and restore them to their familiar shapes; to set a confused and befuddled vision straight and adopt a suitable angle of view — but eventually it is impossible to avoid the realization that these efforts are in vain. What is happening instead is a soft and eerily smooth collapse of the real into incomprehensibility. The viewer loses his grip on these objects and furthermore loses grip on reality itself.

Hovering between instantaneous legibility and abstraction, between threat and beauty, Robert Lazzarini's paradoxical objects, though originally made for direct contact with the human hand—a knife, a gun, knuckles—cannot be grasped, let alone used. Irremediably tilted out of our reality, they stake out their own semiotic field, becoming autonomous signifiers. They negate their function, their inherent practicality, and elude the attempt to frame them in unequivocal terms. Their altered physical form not only defies normative connotations and categories, it also opens up a wide field of novel interpretations, allowing us to consider the objects from angles that are resolutely at odds with the archetypal associations they have in their original guises. These artifacts do not function as mere illustrations of social critique. They are not built to simply express a brash political stance such as to criticize the abuse of guns in the U.S. Nevertheless, the myth of American violence is palpable in the undercurrents of these objects: in their frayed glamour, they hint at Hollywood's exploitation of the archetypal American criminal celebrated in movies and pulp novels as well as capitalism's fetishizing of the object.

Robert Lazzarini's focus is on formal as well as conceptual questions: How far can I distort the shape of an object without rendering it unrecognizable? What semantical changes are brought about by the shift of perspective inscribed on the sculptural body? And which form of engagement on the part of the beholder does this manipulation demand?

The result may look hallucinatory, bordering on the psychedelic. It generates novel and hitherto unseen objects that initially seem to corroborate the physical representations of what they originally were: a gun, a knife, knuckles, a safe. Lazzarini's objects at once reject traditional representational and semiotic connotations of any kind. Physically transformed, they only distantly recall concrete things they nonetheless seem to embody to a certain degree. The distortion proves to be not an optical illusion, but what the artist describes as a "structural change in geometry and proportion that affects the entire object." What comes into being in this process are indeterminate objects; fundamentally ambivalent bodies that may be formally and culturally connected in eclectic and ambiguous ways, responding to the reality around while equally challenging its material boundaries. The materials they are made of are not only familiar; they are real: a skull is cast in real powdered bone, a gun is made of steel and the handle of a hammer is carved in wood.

Furthermore Lazzarini records possible traces of ordinary use imprinted in the objects and maps them to the surfaces

of his sculptures. Their characteristic original shape remains discernible, but these objects have been stripped of the function for which they were initially devised. They no longer “fit” the human body the way they used to.

These contradictory objects are physically present in a distinctly abstract and ambiguous way. They reveal how spurious the solid objects man has conceived to represent abstract ideas really are, undermining not only the functionality originally intended for them but also refusing a viewer’s desire to correct the disfiguration. What appears to be, at first glance, the titular “Jam Shot,” a brute-force way of opening a safe with a nitroglycerin charge, is in reality a formal and structural deformation of surgical precision, affecting the nature of even the smallest detail of each artifact. It distorts the object just far enough, makes it just unfamiliar enough, thus challenging conventional categorizations, may it be “everyday object” or “sculpture”, “beautiful” or “ugly,” “aesthetic judgment” or “everyday life”.

Robert Lazzarini’s formal operations mind the complexity and the limitations of every manmade artifact. By structurally disrupting their functionality, he transforms things into discursive objects. In that process, his sculptures open themselves up to be discussed as ideas rather than items; as embodiments of abstract concepts such as freedom, power or violence. The efficacy of the weapon, the snug fit of the knuckles and the unbreakability of the safe can no longer be depended on. The artistic reconfiguration of the object’s contextuality deeply affects its semantic structure: it allows each piece to transition from signified to signifier, from manmade artifact with a clearly defined purpose to utopian or apocalyptic tool previously unseen, spelling out a formal and contextual language hitherto unknown. The legibility of these objects may vary according to each viewer’s disposition. Robert Lazzarini’s sculptures have become objects in their own right, deftly occupying a realm of idiosyncrasy.

SOFT COLLAPSE: DIE WELT ALS EFFEKT
ZU DEN ARBEITEN ROBERT LAZZARINIS.
VON MAGDALENA KRÖNER

Robert Lazzarinis Objekte sind Versehrte. Vielleicht haben sie eine komplexe Beschädigung, oder genauer: eine Transformation erlitten, deren Ursache sich nicht eruieren lässt, deren Spuren jedoch offenbar sind. Der Betrachter begegnet Werkzeugen, Waffen, Munitionskisten – kurz, Überresten des Alltagslebens –, die leicht als solche wiederzuerkennen sind. Zugleich jedoch wirken diese Objekte wie dreidimensionale Schatten ihrer früheren Existenz, verzerrt und verzogen. Sie stellen die Grenzen der Materialität wie der Wahrnehmung gleichermaßen in Frage und scheinen zuinnerst verändert, nicht bloß verformt. Die Umgestaltung, die sie in einem komplexen Prozess aus formaler Analyse, mathematischer Distorsion und originalgetreuer Rekonstruktion erfahren haben, ist fundamental.

Und doch sind Schlagring, Revolver und Safe aus Materialien gemacht, die wir kennen und die sich nicht widerstandslos verformen lassen: Stahl, Holz und Messing. Es scheint zu umfassender Gewalteinwirkung gekommen zu sein oder vielleicht doch eher zu einer Transsubstantiation von Gedanken, als würde die Wirkung einer halluzinogenen Droge wie LSD nicht nur im Gehirn des Betrachters die subjektive Erscheinung der Dinge verzerren, sondern ihre phantasmatische Gestalt in die unmittelbare Realität transponiert. Die Dinge blähen und winden sich, als habe jemand sie erfunden, behalten jedoch ihre Proportionen. Lazzarinis bildhauerisches Vorgehen lässt erkennen, welchen Ort sein Werk einnimmt: Es ist von der Malerei des Barock und ihren ersten gewagten planaren Distorsionen ebenso geprägt wie von der Einbindung von Alltagsgegenständen durch die Pop Art und der sachlichen Aufmerksamkeit für das Verhältnis zwischen Objekt und Welt im Minimalismus.

Ein spürbares Interesse an der strukturellen Verwandlung von Alltagsdingen gab es schon früher in der Kunst, insbesondere in der Ära der Pop Art. Man denke etwa an Césars schmelzendes Plastik, das in seinem kunstvollen Verfall eine unendliche Vielfalt biomorpher Gestalten anklingen ließ, oder an Claes Oldenburgs riesige weiche Formen. Während aber Oldenburgs Prozess der Vergrößerung und des scheinbaren Zerlaufen-Lassens von Gegenständen zutiefst theatralisch und performativ war, setzt sich bei Lazzarini ein klassischer Sinn für skulpturale Formgebung durch.

Obwohl seine Objekte in ihrer ursprünglichen Materialität eine unhinterfragliche Grundlage haben, verursachen sie eine tiefgreifende Irritation der Wahrnehmung. Seine Artefakte bleiben ebenso lesbar wie ein Oldenburgscher „Giant Soft Fan“, doch greifen sie in das Reich des Unheimlichen und Unbehaglichen aus und konfrontieren jeden Betrachter mit den Grenzen seines Denkens und seiner Wahrnehmung, indem sie dessen Kategorien grundlegend in Frage stellen. Die Wahrnehmung versucht beständig, die offenbaren Verwandlungen ungeschehen zu machen und die Dinge in ihre gewohnte Form zurückzubiegen; den verwirrten Eindruck zurechtzurücken und einen geeigneten Blickwinkel zu finden – letztlich aber bleibt nur, das Vergebliche dieser Bemühungen anzuerkennen. Was sich hier vielmehr ereignet, ist ein weiches, geradezu übergangsloses Kollabieren des Realen ins Unverständliche. Dem Betrachter „entgleiten“ diese Objekte, und noch mehr: die Wirklichkeit selbst.

Robert Lazzarinis zwischen unmittelbarer Lesbarkeit und Abstraktion, zwischen Bedrohung und Schönheit changierenden, paradoxen Objekte lassen sich, auch wenn sie ursprünglich für den direkten Kontakt mit der menschlichen Hand gemacht wurden – Messer, Schusswaffe, Schlagring –, im Wortsinn nicht be-greifen, nicht fassen und schon gar nicht benutzen. Diese Objekte definieren aus ihrer nachhaltigen Schräglage zur Realität heraus ein eigenes semiotisches Feld, sie werden zu autonomen Signifikanten. Sie negieren dabei die ihnen inhärente, sachliche Funktionalität ebenso wie jede mögliche Einordnung in eine eindeutige Perspektive. Ihre veränderte physische Gestalt verweigert sich nicht nur normativen Konnotationen und Kategorien, sie eröffnet darüber hinaus ein weites Feld neuartiger Deutungen. Dadurch lassen sich die Objekte aus Blickwinkeln betrachten lassen, welche mit den archetypischen Assoziationen, die sich mit ihrer ursprünglichen Form verbinden, inkompatibel sind. Lazzarinis Artefakte veranschaulichen nicht bloß eine Gesellschaftskritik. Sie wollen nicht einfach eine clevere politische Stellungnahme, etwa einen kritischen Kommentar zum Mißbrauch von Schußwaffen in den USA, formulieren. Dennoch ist der amerikanische Gewaltmythos untergründig in ihnen spürbar: In ihrem gebrochenen Glanz lassen sie die kommerzielle Verwertung der Begeisterung für den archetypischen amerikanischen Gangster in Hollywoodfilmen und Schundromanen wie auch den kapitalistischen Warenfetisch erahnen.

Robert Lazzarini geht es vordringlich um formale und konzeptuelle Fragen: Wie stark kann ich einen Gegenstand verformen, so dass er doch noch erkennbar bleibt? Was verändert sich semantisch durch den in den skulpturalen Körper eingeschriebenen Wechsel der Perspektive? Und welche Bezugnahme des Betrachters fordert diese Manipulation?

Das Ergebnis mag halluzinatorisch, ja beinahe psychedelisch wirken. Es bringt neuartige, bis dato unbekannte Gegenstände hervor, welche zunächst die physischen

Repräsentationen dessen zu bestätigen scheinen, was sie im Originalzustand waren: eine Handfeuerwaffe, ein Messer, ein Schlagring, ein Tresor. Zugleich weisen Lazzarinis Objekte jede Form überkommener repräsentationaler und semiotischer Konnotation von sich. In ihrer physischen Transformation erinnern die Gegenstände nur mehr vage an etwas Konkretes und scheinen es doch bis zu einem gewissen Grad zu verkörpern. Ihre Verzerrung erweist sich dabei nicht als optische Täuschung, sondern als, wie der Künstler es nennt, „strukturelle Veränderung der Geometrie und Proportionen, die das ganze Objekt erfasst." Was in diesem Prozess entsteht, sind bislang unbestimmte Objekte: von Grund auf ambivalente Körper von vielfältiger und ambivalenter formaler und kultureller Anschließbarkeit, die auf die sie umgebende Realität antworten und zugleich deren faktische Grenzen anfechten. Die Materialien, aus denen sie gemacht sind, sind nicht nur vertraut, sondern echt: Ein Schädel ist aus wirklichem Knochenmehl gegossen, eine Waffe ist aus Stahl, der Griff eines Hammers ist aus Holz geschnitzt.

Darüberhinaus bildet Lazzarini alltägliche Benutzungsspuren an seinen Objekten auf der Oberfläche seiner Skulpturen nach. Ihre ursprüngliche, charakteristische Form bleibt erkennbar, doch wurden diese Gebrauchsgegenstände ihrer einst für sie erdachten Funktion beraubt. Sie haben die unmittelbare Bezugnahme auf den menschlichen Körper verloren.

Diese widersprüchlichen Objekte verfügen über eine abstrakte und zweideutige Eigenkörperlichkeit. Sie desavouieren die Solidität der vom Menschen erdachten dinglichen Repräsentation abstrakter Ideen und unterlaufen nicht nur die ihnen ursprünglich zugedachte Funktion, sondern verweigern sich auch dem Wunsch des Betrachters, die an ihnen vollzogene Entstellung rückgängig zu machen. Das, was etwa eine Arbeit wie „Jam Shot" zu titulieren scheint, die brachiale Sprengladung mit Nitroglyzerin, die einen Tresor zu öffnen vermag, ist tatsächlich eine formale und strukturelle Umgestaltung von chirurgischer Präzision, die noch das kleinste Detail am Objekt wesentlich verwandelt. Sie entfremdet das Objekt gerade eben so weit von sich selbst, dass die üblichen Einordnungen in „Gebrauchsgegenstand" oder „Skulptur", in „schön" oder „hässlich", in „ästhetisches Urteil" oder „Alltag" nicht mehr greifen.

Robert Lazzarinis formale Operationen sind sich der Komplexität und Begrenztheit der von Menschen gemachten Artefakte bewusst. Indem er ihre Funktionalität durch strukturelle Eingriffe stört, verwandelt er Dinge in diskursive Objekte. In diesem Prozess öffnen sich seine Skulpturen einem Diskurs, die sie als Ideen eher denn als Gegenstände verhandelt; als Verkörperungen abstrakter Begriffe wie Freiheit, Macht oder Gewalt. Die Effektivität der Waffe, die genaue Passform des Schlagrings und die Sicherheit des Tresors sind nicht mehr gewährleistet. Die künstlerische Rekonfiguration der Kontextualität des Objekts hat tiefgreifende Folgen für seine semantische Struktur: Sie lässt jedes Stück von der Seite der Signifikate auf die der Signifikanten wechseln. Sie verwandelt ein Artefakt mit klar bestimmtem Zweck in ein nie gesehenes utopisches oder apokalyptisches Werkzeug, das eine bisher unbekannte formal-kontextuelle Sprache spricht. Die Lesbarkeit von Robert Lazzarinis Objekten mag von der Haltung des Betrachters abhängen. Sie sind eigenständige Dinge geworden, die gewandt einen idiosynkratischen Raum einnehmen.

Übersetzung: Gerrit Jackson

Previous page:
***safe* (blown)**, 2011 and ***brass knuckles* (iii)**, 2010
Installation view

Right:
***safe* (blown)**
2011
metal and paint
Body: 129,54 x 68,58 x 73,66 cm / 51 x 27 x 29 in
Door: 20,32 x 71,12 x 167,64 cm / 8 x 28 x 66 in

NITROGLYCERIN
UNCLE FESTER

If one was for some reason forced to choose a single all purpose explosive or if one were to wish away all the explosive substances save one, nitroglycerin is the chemical to clutch close to one‘s heart. This popularly, and for the most part unjustly, maligned explosive is so powerful, versatile, and easy to make that it is far and away the number one choice for a Home Workshop Explosive manufacturer.

There are a variety of reasons for this assessment. First and foremost, the materials to produce it are easily available. So long as one works with smaller size batches, the dangerousness of the process is greatly overstated. Add to that the fact that the power of a small amount of nitro can be multiplied greatly by incorporating some of it into a mixture with ammonium nitrate, then you will see my point on this matter.

We‘ve all seen the Hollywood hogwash a million times where the hero thrusts himself into „mortal danger“ with nitro. Small droplets of nitro oozing from old sticks of dynamite fall to the ground and explode on landing, like souped up firecrackers. Let me tell you right up front that this is the purest form of bull. Some of my fondest adventures centered around nitro, and it is nowhere near that easy to set off. There is no reason why anyone who takes reasonable care and does not suffer from a terminal case of the shakes cannot handle nitro safely. I have had occasion to fall while in a state of high inspiration on broken sidewalks, and my vial of nitro land on the sidewalk next to me. No explosion. I have dropped quantities of nitro from a height of several stories and had it land in a couple inches of snow with no detonation. It has been my experience that so long as one works with fairly limited quantities of nitro at a time, and then processes the product into gelatin or plastique, the dangers one faces are minimal and manageable.

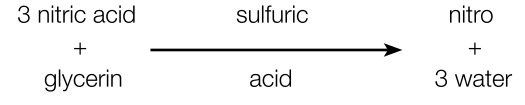
This isn‘t to say that a case full of spoiled dynamite isn‘t a very dangerous item. With a case one has the mass of the whole load grinding and jostling upon each step taken. That is a recipe for disaster. The individual stick just isn‘t particularly dangerous so long as it is handled gently.

The need for small batches may at first seem discouraging for those special applications where a large amount of blasting power is required. It should not be. This drawback can be conquered by running one‘s batches serially. A large part of the nitro manufacturing process is sitting around waiting while the various cleansing operations work. This dead time can be profitably filled by starting another batch to feed into the clean-up section of the operation. It has been my experience that a couple ounces of product can be routinely run with none of the complications that
can arise from runaway reactions with larger loads. Since only about 45 minutes is needed to do a batch, a healthy rate of production can be maintained. With a competent and trustworthy helper at hand, these serial production techniques are vastly simplified. In the production section of this chapter, I‘ll provide my suggestions on how to organize this serial batch production effort.

Still not convinced? Some of the most gripping TV watching I have ever had the pleasure to do was FBI surveillance tapes of Moslem guerrillas cooking large batches of nitro. While guerrillas number one and two were busy mixing chemicals from a drum guerrilla number three was busy on the prayer rug turning out incantation after incantation. Save yourself some time on the prayer rug, and keep the big batches for DuPont.

Now it is time to delve more deeply into exactly how nitro production is set up and why one should regard nitro as the explosive of choice. To answer the last question first, one only has to consider the extreme simplicity of making and purifying nitro. It was first made in the middle 1800s. This speaks volumes when you consider the crude materials and equipment available at the time. It has been my experience that anyone who is not brain damaged can easily master the process. So long as attention is paid to following the directions, there is virtually nothing that can go wrong.

Nitro is a member of the nitric ester family, and is made the same way as the rest of the family. Nitric acid is reacted with an alcohol (in this case glycerin) to form the ester nitroglycerin. Sulfuric acid is added to the mixture to soak up water, and thereby increase the amount of nitro produced:



Both sulfuric and nitric acid have already been covered, so no more will be said about them other than to say that both concentrated and fuming nitric acid can be used to make nitro. Same with the sulfuric acid, both concentrated and the fuming acids will work for making nitro. The procedures are a little different depending on what strength acids are being used, butthat will be covered in detail in the production section of this chapter. Let me just say up front that the best yields of product are to be had when one of the acids used is of the fuming grade. It doesn‘t matter which one of the acids is of fuming strength, so cost or ease of availability is the overriding factor in choosing which acid to get in the fuming strength. Results are better with the fuming grade because of the smaller amount of water added to the reaction mixture.

Glycerin is the other ingredient for nitro manufacture. As luck would have it, it is very easy to find. Look on the shelves of any drug, store, and you will find it. They have it in little bottles for use as an „emollient“ to help dry skin. The problem with just going to the drug store and picking out a few bottles of whatever is handy is that many brands of glycerin are cut with water. Since glycerin is a clear liquid, it

doesn‘t show up just by looking at it.
The first step to bypassing this potential pitfall is to pick up a few different bottles of the competing brands, and check them for their water content. The easiest way to do this is to see how runny the glycerin is. Adding water to glycerin makes it runnier. The difference can be made more obvious by cooling the bottles down in a refrigerator. Good glycerin will get thick like honey.
If no brand is clearly superior to the others, one must check to see if all the brands are garbage, or if they are all good. To do this, the glycerin is cooked to see how much water will boil out of it. The best way to go about this is to pour the contents of a bottle of glycerin to be tested into a glass measuring cup (best if it is made out of pyrex or kimax so it will withstand the heating) and then place the glass measuring cup into a small pan or other metal container that is filled with enough cooking oil to reach about half way up the sides of the measuring cup.
This is placed on a stove and heated. The temperature of the glycerin is monitored by use of any convenient sized cooking thermometer. The glycerin should be stirred regularly to make sure that it gets heated evenly. There is no danger in this process since glycerin is no more unstable than the cooking oil. When the temperature of the glycerin reaches 100° C (212° F), boiling may be noted in the glycerin. If it does boil, that means there is water in it. Glycerin does not boil until a temperature of 290° C is reached. The heating should be continued until a temperature of around 200° C is reached, and then the heat can be turned off and the contents allowed to cool.
To interpret the results, simply read on the measuring cup how much of the glycerin has boiled away. Some small amount of boiling can be expected because glycerin will soak up water from the air just by being exposed to humid air. If, however, more than a few percent of the glycerin boils away, there is too much water in the glycerin for best results. In making these volume measurements, it is important that the glycerin be at about the same temperature for both the before and after reading. This is because glycerin expands quite a bit when it is heated, so taking one reading while the glycerin is hot will give inaccurate results.
If the glycerin has an unacceptable amount of water in it, one has a couple of choices. The first and easiest choice is to just keep shopping until a good grade of glycerin is found. If you do not strike paydirt by this method, the more difficult route of distilling the glycerin must be followed.
Industrial manufacturers of nitro almost always distill their glycerin before using it. This puts their worried little heads to rest on the water issue. It is pretty safe and easy to do, but the distilling equipment described in the nitric acid section is needed to do a good job. An alternative is to follow the procedure described just above for testing the amount of water in the glycerin. If the temperature of the glycerin is held in the 150° C range for an hour or so, almost all the water will boil out of it. It will pick up a yellowish color during the heating process due to the formation of acrolein compounds, but this does not cause any harm. Industrial distilling techniques give the same yellow color. It just means that the nitro will be yellow colored instead of the nice clear product that could be had with better glycerin. If this clear product is desired, a vacuum distillation of the glycerin will give it. If the experimenter has experience doing vacuum distillations, this is the best route to follow. I must warn that glycerin has a tendency to bump during vacuum distillations. Adding a healthy amount of glass wool (angel‘s hair) to the distilling flask will keep this under control. Boiling chips do not do a good job with glycerin.
So with the preliminaries taken care of, it is time to move on to the actual nitro production process. To start with, a 5 gallon plastic pail is filled about 2/3 full of cold water and placed next to the production area. It serves the same purpose that it did in the methyl nitrate section. If in the unlikely event that the batch gets put of control and begins gushing out the red fumes of poisonous NO_2 , the batch can be drowned in the water and the danger averted.
Then on a table next to the water pail is placed a styrofoam tub or other suitable container about half filled with crushed ice. Into this ice, a glass vessel is nestled. It should be about a pint in volume and have the thin glass and pouring lip mentioned earlier when describing the ideal reaction vessel.
Into this glass vessel, put 100 ml of concentrated nitric acid and 200 ml of concentrated sulfuric acid. These acids should be cold to start with by being stored in a freezer. They are mixed together by swirling the container, or mixing with a glass rod or thermometer. This mixing will warm them up a little bit, but they will quickly cool again in the ice bath. When the temperature of the acids is under 40° F (4° C), the glycerin can be added. To do this, about 50 ml of glycerin is measured out. It is then added to the acid mixture 5 ml at a time. The best way to do this is to let the glycerin portions run down the side of the glass. This ensures that the glycerin enters the acid mixture gradually rather than in lump sums.
The mixture must be stirred during the addition to keep the glycerin from building up in one particular spot. If it should build up in one spot, a runaway reaction would result. There are several choices for stirring techniques. My favorite is to tilt the container at about a 45 degree angle and then rotate the vessel in a manner similar to a cement mixer. This very gentle technique works well. Another alternative is to swirl the vessel. It could also be stirred by using the glass thermometer. Doing this, it is important not to bang it around or to create friction by scraping it on the walls of the vessel. This is an inferior technique. Nitro factories stir their batches by blowing a stream of dry air through the reaction mixture. The rising bubbles do the stirring. If a person should want to copy this stirring

technique, Iwould suggest using some stiff plastic tubing inserted about two-thirds of the way to the bottom of the reaction mixture. One should check beforehand to see if the plastic will stand up to exposure to the strong nitric/ sulfuric acid mixture. I would never use glass tubing as an air bubbler. It might fall out of place, bang the bottom of the reaction vessel, and cause problems.

The addition of the glycerin to the acids should take about 25 minutes, adding ten portions of glycerin of about 5 ml each. The temperature of the reaction mixture should be watched during the addition of glycerin. It should not be allowed to rise above 50° F. If it gets too close to this temperature, the additions of glycerin should cease, and the mixing continued with the vessel nestled in the ice bath until the temperature drops back down to around 40° F.

Under no conditions should it be contemplated to just add all the glycerin, nitric and sulfuric acid together all at once „to save time.“ To add them all together at once will result in a geyser of red fumes in a small batch, and possibly an explosion in a large batch. Likewise, it should not be contemplated to add the acids to the glycerin. This chapter will cover all the good variations on nitro production.

When all the glycerin has been added, a milky colored solution will have been formed with little globules of pure nitro dispersed throughout the mixture. After the glycerin has been added, the mix can be allowed to warm up a little bit. It can be taken out of the ice bath, and its temperature allowed to rise into the 50‘s F. Stirring should be done occasionally during this period.

About 20 to 25 minutes after the last addition of glycerin, the reaction can be considered to be finished, and purification and processing commenced. The first step in processing the nitro is to pour the whole batch into a little over a quart of cold water. Most of the acid dissolves in the water, and crude nitro settles out at the bottom of the container as an oil. It goes to the bottom because it is heavier than water. A small amount of nitro stays floating on the surface of the water due to surface tension, but the amount is not that great. Some of the droplets can be sunk by splashing around on the water surface with some type of stirring rod.

The fact that the nitro sinks to the bottom presents the first obstacle in the purification of the nitro. It is obviously going to complicate things getting the nitro off the bottom of the container for further purification. The best solution is to get a 2000 ml separatory funnel. A quart or so of cold water can be put in it, and the batches poured into it when they are done. When the nitro settles to the bottom of the sep funnel, the stop cock can be opened, and the nitro drained out. The leftover acid water can then be poured down the drain. It is important here that the separation between nitro and acid water be as sharp as possible because the whole idea of the purification process is to remove this acid from the nitro.

If a sep funnel is used for the purification of nitro, one should make sure that the stopcock and the stopper are both well greased. If regular stopcock grease is unavailable, substitute Vaseline. This will prevent grinding friction during the use of the sep funnel, and make accidents less likely. When one is finished with the sep funnel work, it should be cleaned out. A cold water rinse followed by a rubbing alcohol rinse will remove nitro residue from the glassware.

Another possible method of getting the nitro off the bottom of the container is to tilt it to one side to pool the nitro, and then suck it up with a plastic turkey baster.

Whichever method is used, the separated nitro is then added to about a cup of clean, cold water and allowed to sit there for a while. This clean water will soak up more acid from the nitro. It is good to cause the nitro to flow around on the bottom of its new container every once in a while, so that it is not the same old surface exposed to the water all the time. This water bath should take no more than about an hour.

Next, the nitro must be carefully separated from the water once again, and added to about a cup of bicarbonate of soda solution. The bicarb solution is made by adding about 10 grams of Arm & Hammer® to a cup of water, and mixing until it is dissolved. The importance of this step cannot be underestimated. The nitro, even after the water washing it has received up to this point, still contains some acid. If the acid is not knocked out, the nitro will not keep. The breakdown of the nitro is fairly rapid. Within a few days of being made, almost all of it will have decayed withou this bicarb treatment to neutralize the excess acid in it. With small batches, this breakdown is a quiet process, resulting in a non or poor explosive mixture. What happens to larger batches is problematic.

When the nitro is added to the bicarb solution, it sinks to the bottom of the container again because it is heavier than water. It should have a milky appearance and an oily consistency. It will usually cause the bicarb solution to start giving off little bubbles, or even some fizzing. This is the bicarb neutralizing the acid. Acid reacts with bicarb to make CO_2 gas. This is the reason a person belches after drinking some bicarb to treat heartburn.

The best way to handle this acid-neutralizing process is to rotate the container so that the nitro rolls around on the bottom of the container, exposing fresh surfaces to the bicarb solution. Swirling may also be attempted, as may gentle stirring with a wooden swizzle stick or plastic straw. A glass stirring rod should not be used because this could result in grinding friction between the stirrer and the bottom of the container, with the nitro trapped in between. This could have disastrous consequences.

If one has a sep funnel, it is most convenient to do the neutralizing process in the sep funnel. This is because, once the nitro has been treated with the bicarb solution, it must once again be separated from the water. So if the bicarb treatment is done right in the sep funnel, one avoids the

hassle of transferring the liquids from one container to another, or using a turkey baster. When using a sep funnel, it is best if the funnel is tilted at about a 45 degree angle to expose a greater surface area of the nitro to the bicarb solution.

However one chooses to do the bicarb treatment, one should spend at least a couple hours on this step. Letting it go overnight does not hurt. This does not mean that it must, or even should, be constantly attended, stirred, swirled, or fussed over. An occasional agitation is enough to do the job well. More agitation and warmer water will get the job done more quickly, but why be in a hurry when one is having such fun?

At the end of the bicarb treatment, the nitro does not look any different from when it went into the process. It still has a milky appearance. This is caused by water trapped inside the nitro, and it should be removed before the nitro can finally be called pure. If it is left in the nitro, it could cause problems with detonating the nitro, or with further processing it into gelatin or dynamite.

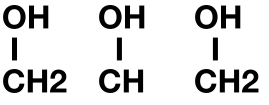
The best way to remove the water from the nitro is to let it sit in contact with a saturated salt solution. This sucks up water from the nitro in the same way that drinking salt water dehydrates shipwrecked sailors. Saturated salt solution is water that is holding dissolved in it all the salt (regular table salt) that it can. The best way to make saturated salt solution is start with hot water in any container, and add salt to it until no more will dissolve in it. Good stirring or shaking is essential to getting the maximum amount of salt to dissolve in the water.

When the water cools down, the clear colored saturated salt solution (i.e., no crystals of solid salt floating around) is poured off of the excess salt sitting on the bottom of the container. This is put in a suitable container and the nitro is separated from the bicarb solution by use of a sep funnel or turkey baster as described earlier. Then the nitro is put in contact with the salt solution. There should about two volumes of salt solution to one volume of nitro. After they sit together in contact for a few hours, the salt will suck the water out of the nitro, resulting in a clear product. The product will be yellow if the glycerin was yellow to start with due to water removal processes. The yield of nitro is about 50 ml, the same volume of nitro as glycerin used in the manufacture. This process can be shortened if the bicarb solution is also saturated with salt. This will dehydrate the nitro at the same time it removes the acid from it.

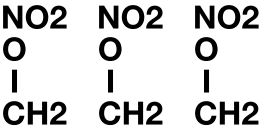
This yield of nitro can be improved greatly by using the higher grades of acids. If one of the fuming acids is used, the amount of nitro obtained from the same sized batch is approximately doubled. This is due to the lesser amount of water in the mixture, and the higher concentration of nitric acid. This method using the common concentrated acids was given first because these acids are the most easily available and cheapest. We shall now cover the small difference in processing when using the fuming acids versus the plain concentrated acids.

Before moving on to production processes using the fuming acids, one more point should be made. Since the amount of nitro produced corresponds to the amount of glycerin used, a person may be led to believe that by using more glycerin in a batch of nitro, more product could be obtained. This is wrong. It does not work for reasons I shall explain.

Below is the molecular structure of glycerin:

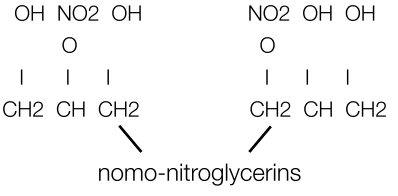


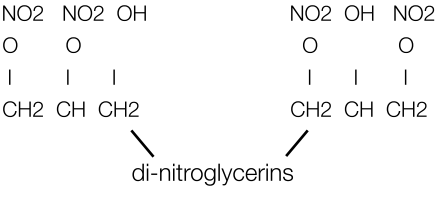
Notice that it contains three alcohol groups (the OH sections of the molecule). Each one of these must react with nitric acid for the product to be nitro.



nitro

If the amount of nitric acid in the reaction mixture becomes stretched too thin, as will happen if too much glycerin is added to the mix, then by-products will begin to be formed where one or more of the alcohol groups of the glycerin has failed to react:





So the use of more glycerin is self-defeating. These mono and diglycerins are explosive compounds, but are not so good as nitro itself. Some of these compounds will be formed in any nitro process, but the aim should be to keep their numbers as small as possible.

The natural next question is: How careful do I have to be at measuring out the ingredients to get good results? The

answer is that, one can always use extra acids and still get good results. It's just that after a certain point, it gets wasteful. As for the glycerin, so long as the amount used is within 10% of the prescribed amount, no problems will be encountered. The familiar TV and movie image of chemistry requiring to-the-drop accuracy in measurement is true for doing analysis, but not usually for making chemicals.

Now let's move on to the variation of nitro production using fuming nitric acid and concentrated sulfuric acid. This process is no more difficult than the previous process, but fuming nitric acid is more expensive and more difficult to obtain. As was mentioned earlier, the yield of nitro is double the amount of glycerin used.

One starts this process with the same set-up as used in the first method. The tub of ice sits on the table top and the pail of water sits nearby for dumping out-of-control reactions into. The same type of reaction vessel (thin walled glass with a pouring lip) is set into the ice bath, and 100 ml of fuming nitric acid is measured out of the bottle or jug of fuming nitric acid that was previously cooled down in the freezer. Put the fuming nitric acid into the reaction vessel, then measure out 200 ml of concentrated sulfuric acid. Add the concentrated sulfuric acid to the nitric acid, slowly and with stirring. This addition will produce a bit of heat.

When the acid mixture has cooled back down to ice temperature, addition of glycerine can commence. A total of 50 ml of glycerine should be added to the reaction vessel. The addition of glycerine should be done in small portions, just as in the previous example. The same stirring procedure should be used as in the previous example, and the addition of glycerine should again take about 25 minutes to complete.

The big difference in procedure using the fuming acid is the need to more closely watch the temperature of the mixture. The fuming acid will produce twice as much nitro product, and it will also produce twice as much heat of reaction while doing it. Effective stirring of the mixture while keeping the reaction vessel in contact with ice will assure that the heat of reaction makes its way out of the mixture, and into the ice.

Once the addition of glycerine is completed, the stirring of the reaction can be continued in the ice bath for a few more minutes, then the reaction vessel can be taken out of the ice, and allowed to warm up into the 50's F. It should be held there for about 10 minutes with mixing, then the whole batch is poured into some ice water just like in the first method. From here, processing into pure nitro is handled exactly as in the first method. The only difference is that 100 ml of nitro results instead of 50 ml.

There is another variation on nitro production that one could choose to use.

This is when the acids used are concentrated nitric acid (i.e., 70%) and fuming sulfuric acid. There are a couple complications to this method. First of all, there are two common grades of fuming sulfuric acid, one contains 20% SO_3 (oleum) and the other contains 40% SO_3. So separate directions will have to be supplied for each grade of fuming sulfuric acid. Secondly, fuming sulfuric acid reacts pretty vigorously when it comes in contact with water, so it must be mixed up front with the nitric acid, rather than added last as in the previous method. If it was added last, the heat it would produce would send the reaction over the limit. These complications are easily overcome.

So to start, the same setup is used as in the previous batches. Then into the reaction vessel nestled into the ice bath is put 100 ml of concentrated nitric acid (70%). This is ice cold stuff fresh from the freezer. Then to this is added slowly with good stirring 115 ml of 40% SO_3 fuming sulfuric acid, or 200 ml of 20% SO_3 fuming sulfuric acid. This fuming acid will react vigorously when it hits the nitric acid because the nitric acid is 30% water. It may even splatter, so the opening of the vessel should point away from the experimenter. It is best if the fuming acid is allowed to run down the walls of the reaction vessel into the nitric acid. Stirring is called for during this operation to keep the reaction dispersed.

When all the fuming acid is added to the nitric acid, they must be mixed thoroughly, then allowed to cool down in the ice bath until the temperature of the mixed acids is under 40° F. Then it is time to add the glycerin. 50 ml of cold glycerin is measured out and added in 5 ml portions over a 20 minute period, just as in the first method. The cement mixer stirring technique is once again king. When all of it has been added, mixing is continued for a few minutes, then the brew is taken out of the ice bath and allowed to warm into the 50's F for a while as before. Then it is poured into water, and purification to pure nitro is done exactly as in the previous methods. Yield of product is a little over 100 ml if 40% oleum is used, and about 100 ml if 20% oleum is used.

HARDWARE STORE NITRO

As you have seen, all of the nitro recipes given up to this point assume that the person has easy access to good grades of the necessary acids, nitric and sulfuric. Not many of us are so blessed by circumstances. No need to lose heart, however, as there are alternatives. Your Uncle thought up this recipe while on one of many shopping trips to the hardware store. I just know you are going to love it!

Turn back to the nitric acid section of this book. There was a procedure given for making fuming nitric acid by mixing potassium nitrate with sulfuric acid, and distilling out the fuming nitric acid. The first thing I noticed at the hardware store was that one could easily buy fairly pure potassium nitrate in. the form of stump remover. The next thing I noticed was that a reasonable technical grade of sulfuric acid was also to be had at the hardware store. This product

is Liquid Fire drain opener. The next thing I wonder was whether or not it was really necessary to distill out the nitric acid. Couldn't one just use the nitric/sulfuric acid mixture that results when potassium nitrate is mixed with sulfuric acid? Some experimentation proved that not only is this hardware store nitro recipe super clandestine, but it also gives results which are superior to the standard concentrated nitric acid and concentrated sulfuric acid recipe. This is because the nitric acid produced by this method contains less water than commercial con-centrated nitric acid.

To do the Hardware Store Nitro recipe, one starts with a glass container. It should preferably be made of Pyrex glass to withstand some heating, and it should have a smaller size opening so it can be stoppered to keep in fumes. A flask of any type will do, but if those are unavailable, one can improvise.

Into the flask, put about 150 ml of Liquid Fire drain opener. Next add 100 grams of potassium nitrate. This should either be a reasonably pure stump remover such as the Green Thumb brand, or a dirtier brand purified by the directions given in the nitric acid section. Lumps in the stump remover should be broken up so that a fine powder is added to the acid drain opener.

When the two materials are mixed together, there will be no obvious reaction, but there will be some heat generated. To get the reaction to become complete, the mixture must be heated. A pan of boiling water is the perfect heating source.

Now stopper the flask loosely with a cork or other stopper, and immerse the flask into the boiling water. A stopper should be used because as the mixture is heated to produce nitric acid, a fair amount of nitric fumes may escape an unstoppered flask. As the flask warms up in the boiling water, the white crystals of potassium nitrate dissolve to produce fuming nitric acid. Some swirling of the mixture helps speed along the process. If there are lumps of potassium nitrate in the mixture, it is a good idea to break them up using a glass rod. Within about 15 minutes of heating, a transparent yellowish colored solution will result. No more solid will be seen in the mixture. A very good nitration mixture for nitro production has just been made.

Now cool down the flask. If the flask is made of Pyrex, it can be immersed directly into ice water. Less robust glass should be just allowed to cool off on its own, and then put into ice water.

Once the fuming nitric acid mixture has cooled down to ice temperature, it should be used immediately for making a batch of nitro. For the particular batch size given in this example, roughly 40 ml of glycerine should be used. It should be added in small portions, with mixing, just as in the other examples. Then, just as in the other examples, the reaction mixture is poured into about a quart of ice cold water. The purification of the product is then done, exactly as given in the other examples in this chapter. The yield will be around 60 to 70 ml of nitro. Take special care with this method that all acid gets removed from the product!

So, as one can see, making nitro is not an especially difficult procedure, if one has at hand the required chemicals. Equally easy is gearing this process up for turning out substantial quantities of nitro.

As was alluded to earlier, larger batches of nitro have dangers inherent to their production that the smaller batches do not. For instance, a runaway big batch may blow up rather than just make poisonous gases. So the aim of the Home Workshop experimenter should be to organize his production process to take advantage of the dead time in the purification of the nitro to start new batches, rather than to try to push out monster batches.

The longest stretch of dead time in the production process is the acid neutralization with Arm & Hammer® bicarb. This several hour long wait would be a tremendous bottleneck in the production process if one would just sit around and wait for it to get done. On the other hand, if the waiting time for the acid to get neutralized is spent starting another batch, no bottleneck is experienced. All one would have to do is clean up and dry the reaction vessel, run another batch, and then put it through the purification process. In this way, one would have several batches running at once, all at different stages of the production and purification process.

Another section of the purification method that involves a lot of just sitting around and waiting is when the nitro is put in contact with saturated salt solution to remove the water from it. This dead time can be profitably used in the same manner. It is obvious that a fair number of containers of crude nitro will be employed in such an operation. They should all be clearly labelled so that mix ups are avoided. Organization and logical thinking are indispensable in this situation, but using this method of organization, production levels in excess of a pint a day of pure nitro are easily obtainable.

Production can be further increased if there are two people to man the production line. The most fruitful way to divide labors in such a situation is for one person to devote himself to running the synthesis reaction between the glycerin, nitric acid and sulfuric acid, and for the other person to man the purification operation. With this division of labors, production can easily exceed a quart per day without resorting to larger batch sizes.

GELATINS

When the nitro has reached the end of the purification process after the saturated salt treatment, a perfect place to store the nitro is in the freezer. The colder the nitro is, the more stable it is. Cold nitro is difficult to detonate, and frozen nitro is harder still to detonate. A glass container is wonderful for this purpose. As subsequent batches get

finished, the product can simply be poured in with the rest of the nitro in the freezer until the container is filled.
Avoid instances of grinding friction with frozen nitro, such as ungreased stoppers, or screw caps. It can detonate frozen nitro!
An alternative to freezer storage is to simply accumulate the nitro product in the refrigerator. Some people feel that freezing and thawing cycles may present an element of danger. I'm not in agreement with that theory, but it has its adherents. In this particular case, it would be a good idea to sprinkle a small dusting of bicarb in with the liquid refrigerated nitro. The bicarb will react with any acid generated from the breakdown of the nitro, and thereby greatly slow any decay of the product. Nitro breakdown is autocatalytic in the sense that the acid produced from its decay greatly speeds further decay. A drop of ammonia could be substituted for the bicarb.
When the desired amount of product has accumulated, or when the freezer is full, a decision must be made. That is whether to keep and use the nitro in its pure liquid form, or to convert it to blasting gelatin, or to multiply the power of a small amount of nitro incorporating it into mixtures with ammonium nitrate.
In making this decision, the full range of factors have to be weighed. For instance, one has to consider what is going to be used as a detonator for the explosive. If one has access to blasting caps, or can improvise a low-powered cap, gelatin is the nitro-based explosive of choice. Gelatin, when fresh, retains the full power of the nitro, and yet is a good deal safer than the pure nitro.
On the other hand, when all has can procure for detonating the explosive is a strong firecracker, such as an M-80, then one may have to consider using the liquid nitro as is. More on this when detonation systems are discussed later.
If gelatin is the chosen route, one can take heart from the fact that gelatin is very easy to make from nitro, and that so long as it is fresh, it packs an amazing punch. What is meant by „fresh" is that the little air bubbles that get whipped into it in the process of making it are still visible. Once they disappear, half the power is lost because the detonation rate goes down.
The presence of air bubbles in liquid explosives like nitro, or in semi-liquid explosives such as gelatins,or foams has a huge effect on both the sensitivity and the power of the explosive. This subject will come up a lot later in the ammonium nitrate mixtures section, but let's deal with it now. For good reading on this topic, see Chem Abstracts, Volume 41, column 3628. For even more go to the original article in the Proceedings of the Royal Society of London, Volume A 188, pages 291 - 311 (1947). Small air bubbles or other gas bubbles trapped inside the liquid explosive greatly increase the sensitivity of the explosive to detonation.
It is believed that this works because the small gas bubbles greatly compress upon either a striking blow or the shock wave from a detonator. When they compress, they heat up to a remarkable degree. This local heating then facilitates the detonation of the explosive.
It is not only gas bubbles inside the liquid explosive which may produce this effect. Let us say for example that one has placed a large drop of nitro onto a smooth steel surface. If one were to then strike this drop with a hammer that had a few small pits in its surface, the force required to detonate the drop of nitro would be much less than if the surface of the hammer was smooth. The pits on the hammer surface trap air pockets, which then compress and act the same as gas bubbles inside the explosive itself.
Now for how gelatin is made. You may be surprised after reading this and say; „What? There's got to be more!" Really, there is just nothing to the process. First of all, a suitable mixing bowl and stirrer combination is rounded up. A really good combination is a stainless steel bowl and a rubber spatula (small size). Also workable is china with wooden stirrers. What must be avoided at all costs is a hard bowl with a hard stirrer, like a glass stirrer on metal or china bowl. The grinding friction during the mixing could easily set off the gelatin. A combination that generates static electricity such as plastic on rubber must also be avoided because a little spark could set the guncotton to burning.
Now into the stirring bowl is put 93 grams (58 ml) of nitro. Then 7 or 8 grams of nitrocellulose (guncotton: see methyl nitrate section for a discussion of guncotton) is stirred into the nitro. If the nitro is cold, adding an ml or two of acetone (available off the shelf at the local hardware store, check in the paint section) to the mix will help a lot in forming a good even mixture. The use of acetone can be avoided if the nitro is warmed gently by setting the bowl in warm water before adding the guncotton.
When the guncotton is all mixed in, a white jelly will result. The more guncotton that is added, the stiffer the jelly will be, the harder it will be to detonate, and the weaker it will be. Gelatin with 7% guncotton (i.e., 7 grams guncotton to 93 grams nitro) when fresh can be set off with a # 1 blasting cap (the weakest) and with a #4 when it has set long enough that the gelatin has turned from white to clear yellow. 9% guncotton in the gelatin requires a #3 or 4 cap when fresh, and stronger caps when aged.
The gelatin formed in the mixing bowl can be removed using the spatula and stored in ziplock bags until ready for use. Larger batches of gelatin can be easily made, so long as care is taken to ensure that the mixing is complete and even. A uniform product should result.

Excerpt from Uncle Fester, *Home Workshop Explosives*, Second Edition (Festering Publications, 2002).

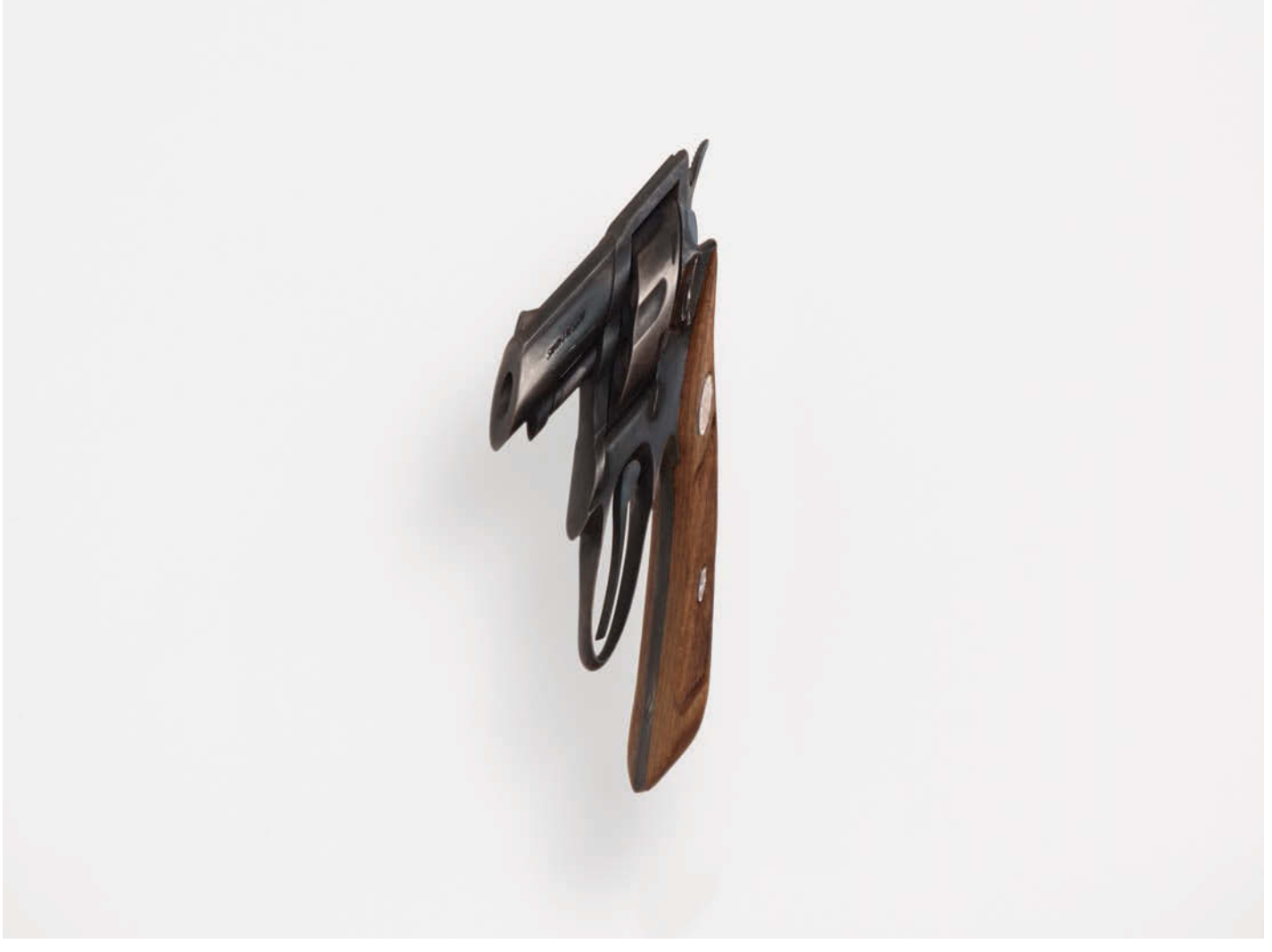
***brass knuckles* (iv)**
2010
brass
12,7 x 17,78 x 10,16 cm / 5 x 7 x 4 in

***brass knuckles* (i)**
2010
brass
33,02 x 40,64 x 20,32 cm / 13 x 16 x 8 in

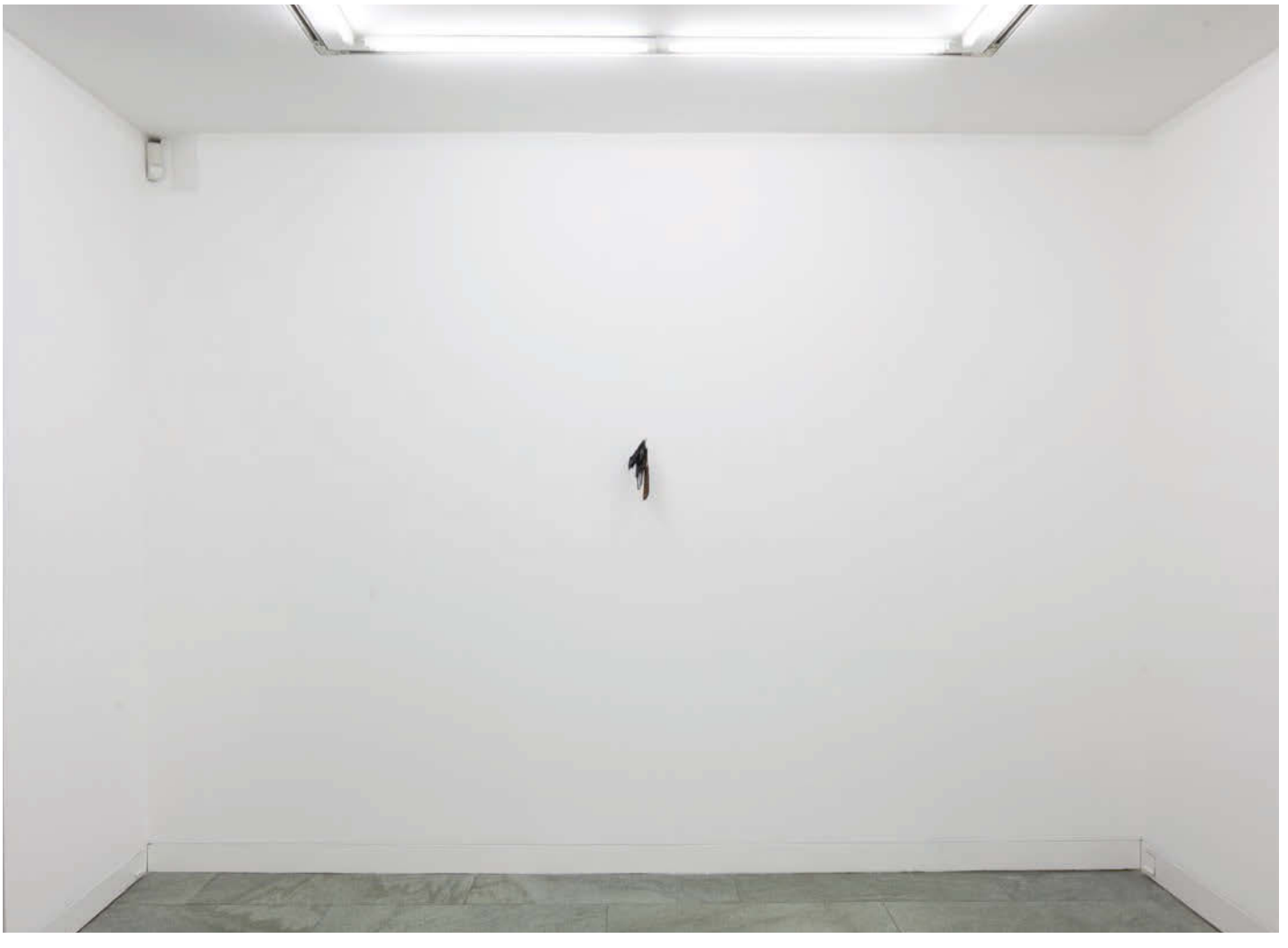
Above:
***brass knuckles* (i)**, 2010 and ***brass knuckles* (iv)**, 2010
Installation view

Right:
***brass knuckles* (iii)**
2010
brass
20,32 x 15,24 x 15,24 cm / 8 x 6 x 6 in

***gun* (ii)**
2008
steel and walnut
24,13 x 8,89 x 7,62 cm / 9 1/2 x 3 1/2 x 3 in



Above / Right:
***shotgun* (sawed off)**, 2011 and ***gun* (ii)**, 2008
Installation views



ROBERT LAZZARINI
jam shot
List of works

Cover: ***safe* (blown)**
2011
metal and paint
Body: 129,54 x 68,58 x 73,66 cm / 51 x 27 x 29 in
Door: 20,32 x 71,12 x 167,64 cm / 8 x 28 x 66 in

***shotgun* (sawed off)**
2011
metal and plastic
12,7 x 55,88 x 12,7 cm / 5 x 22 x 5 in

***gun* (ii)**
2008
steel and walnut
24,13 x 8,89 x 7,62 cm / 9 1/2 x 3 1/2 x 3 in

***brass knuckles* (i)**
2010
brass
33,02 x 40,64 x 20,32 cm / 13 x 16 x 8 in

***brass knuckles* (iii)**
2010
brass
20,32 x 15,24 x 15,24 cm / 8 x 6 x 6 in

***brass knuckles* (iv)**
2010
brass
12,7 x 17,78 x 10,16 cm / 5 x 7 x 4 in

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jam shot
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