

**Chapter 1 : AIMING FOR THE STARS. - Taleyard**

*aiming for the stars. In this era of chaos and competition, where every single person in this world is trying to prove his ability and represent his country by making interesting discoveries Nergis Mavalvala stepped forward to create a difference in very unique and fascinating field of science.*

Originally published in "Guns. They have been used to provide food and protection since the formation of the earliest social units. For centuries, and continuing through today, men and women have used firearms as the most effective weapons individuals can wield. Guns have been used to implement both the highest and basest goals of humanity - to put food on the table, to provide personal protection, to enforce or defy the law, to defend or acquire territory and treasure, and to liberate or to enslave. Guns have also come to be used for a wide variety of recreational and competitive shooting, and millions of Americans exercise their constitutional right to own firearms simply for the pleasure of shooting or the enjoyment of ownership, in addition to more serious uses. The first record describing the combination of charcoal, sulphur, and saltpeter, to produce a rapidly burning or exploding powder is a coded writing by Franciscan monk Roger Bacon shortly before A. Within 50 years, early cannon had been developed. A large thick metal tube with one closed end the breech and an open end the muzzle was loaded first with gunpowder and then with a projectile. The powder was ignited with a torch or smoldering ember through a small hole in the rear the touchhole. The rapidly expanding gases from the exploding gunpowder would throw the projectile from the barrel. This basic principle still applies today. It took another half-century for this concept to be applied to individual hand-held weapons. The first firearms, ca. They were loaded and fired in the same manner as the full-size cannons. The term "lock, stock and barrel" comes from firearms design, representing the three major components of early guns. The barrel is self explanatory, and the stock is of course the wooden holder in which the barrel is mounted allowing the gun to be fired from the shoulder or from one hand. The lock is the mechanical contrivance that is used to ignite the charge of gunpowder in the chamber of the barrel. Many early hand cannons were ignited with a "slow match" - a length of slender rope or cord that had been chemically treated so that an end could be ignited and would continue to burn or smolder, much like a 4th of July punk used to shoot fireworks. The matchlock solved this problem by using an arm called a serpentine on the gun to hold the slow match. By mechanical linkage, a trigger on mounted on the bottom of the lock could be pressed to lower the match to the touch hole, which now included a small pan of fine gun powder that would be ignited first, transmitting the fire through the hole to fire the main charge in the barrel. It was the first to take advantage of the fact that sparks could be produced by striking flint or other substances against steel. The lock contained a wheel with a serrated edge, attached to a spring which could be wound with a separate key called a spanner, much like early clocks, and held under tension. A hammer like piece called the dogshead held a piece of pyrite rock. To fire a wheellock, the dogshead was lowered onto the edge of the wheel, which was released by a pull of the trigger causing a shower of sparks to fall into the pan igniting the charge. The principle is much the same as a cigarette lighter. This was an improvement in reliability over the matchlock, primarily because the shooter did not have to constantly attend to the smoldering slow match to insure that it remained lit. It also avoided the problem of an enemy seeing or game smelling the smoke of the match before the gun was fired. However, it took highly skilled craftsmen to build the clock-like mechanism of the wheellock, making it an extremely expensive piece, primarily available to royalty and the like for hunting. Although wheellocks saw some military use, the matchlock remained the most common military firearm during the wheellock era. FLINTLOCKS Improvements using flint against steel to provide the igniting spark continued in the second half of the 16th century, with two early examples being the snaphaunce, the first flint lock type gun ca. The snaphaunce held a piece of flint in the hammer-like cock, with a pan of priming powder mounted on the outside of the barrel over the touchhole as with the matchlock system. When ready to fire, a steel striking plate the "battery" would be manually swiveled into place above the pan, and the cock pulled back until it was caught by a sear. Pulling the trigger would release the cock to swing rapidly forward striking the battery, and showering sparks into the pan, hopefully firing the gun. As with all flint lock type systems, sometimes the

priming powder in the pan would ignite, but would fail to transmit the fire to the powder in the barrel resulting in a failure to fire, and giving us a colorful phrase still used today - "a flash in the pan. The pan cover would have to be manually swiveled out of the way before firing. Around 1650, the Miquelet system improved on and simplified the snaphaunce by combining the battery and pan cover into a single piece, called the frizzen. This L-shaped spring-loaded piece would be pivoted down to cover the pan after it had been primed with powder. When the cock was released by the trigger, it would swing forward striking the frizzen, producing sparks at the same time it pushed the frizzen up and forward to expose the powder in the pan to the igniting sparks. The major improvement over the Miquelet consisted of moving the mechanical components for the lock mechanism from their previous position on the outside of the lockplate, where they were exposed to elements and damage, to the interior of the lock. Beretta began operations in Brescia Italy in 1596, making it one of the oldest industrial companies in the world. Archers had found that if the fletching feathers on the rear of their arrow were at a slight angle, causing the arrow to rotate in flight, their ability to hit the target was improved. This concept was applied to gun barrels by cutting slowly twisting grooves down the interior length of the barrel, imparting a spin to the bullet as it left the muzzle. These grooves were called rifling, and "rifled muskets" or "rifles" so equipped were found to be much better at hitting their mark over further distances than "smooth-bore" muskets. With the improved accuracy offered by rifled firearms, a system of aiming them other than pointing became more important, and early forms of sights became more widely used. A common system, still used in many guns today, was a notch of some type at the rear of the barrel and a post on the front. With this type of open sight, the top of the front sight post is aligned with the target, and the post is centered by eye between the edges of the rear sight notch, with the top of the post level with the tops of the sides of the notch. When the sights themselves are properly physically aligned with the axis of the bore, this system still provides all the accuracy required for most practical shooting needs. However, during the Colonial years, a distinctly American type of gun would be developed, by first dozens and then hundreds of gunsmiths scattered through the new land. In the late 17th and 18th Centuries, colonists coming to America brought their indigenous European firearms and gun design concepts with them. The gun was a necessary and treasured tool when pioneering a frontier wilderness far from civilization, and gun makers were valued and essential members of the small settlements. The American long rifle, variously known as the Kentucky, Pennsylvania, or Ohio rifle, is most likely the descendant of the German Jaeger translated "hunter" type flintlock, a practical classic European hunting rifle. In the New World, it slowly evolved into a longer barreled firearm with wooden stock extending the full length of the barrel, while the rear of stock developed a graceful downward curve. Eventually, deluxe versions would come to be decorated with colorful brass or pewter inlays in the stock, with stars, hearts, and simple animal silhouettes being popular motifs. The brass covered patchbox in the rear of the stock would become more elaborate and decorative over time. This is gun that fed and defended early pioneer families. Marksmanship was a valued, necessary, and common skill. European military doctrine of the time called for the use of smoothbore muskets as the primary martial firearm. Although less accurate than rifled arms, the smoothbore allowed for faster reloading, since a lead ball slightly smaller than bore diameter could be rammed down the barrel with wadding quite quickly, even as the barrel became fouled from gunpowder residue from previous shots. By contrast, to be effective, the lead bullet for a rifled arm must fit the bore tightly to engage the rifling, and takes more time and effort to ram home. European armies would meet on a field of battle in massed formations and exchange volleys of fire from their smoothbore muskets, more pointing the weapons at the clustered line of enemies across the field than precisely aiming, and relying on volleys of multiple lead balls to strike down some opponents before closing for combat with saber and bayonet. The classic British Brown Bess and French Charleville Musket were sturdy smoothbore flintlock designs, well suited for this type of combat. After securing independence, the new country rapidly sought its own means of mass producing military arms, establishing government arsenals for the manufacture of firearms at Springfield in 1794 and Harpers Ferry in 1802. Many of their early products were indeed smooth bore muskets, still a useful military arm. However, the age of the rifle as an essential weapon for the marksman in combat had arrived. In addition to arsenal made firearms, the U. S. The famous Henry Deringer, whose name later would become synonymous with small concealable handguns, produced flintlock rifles for the U. S. A shooter often had

to carry two types of powder - fine grained for priming and coarse for the main charge, and the system was unreliable in wet weather. It was difficult to store a gun loaded and ready for use. In a Scottish clergyman, Rev. Forsyth, is credited with developing an ignition system based on the principle that certain chemicals would ignite with a spark when struck a sharp blow, a concept which can be observed in toy cap pistols or "pop rock" type fireworks today. Various methods to utilize this approach were tried, and in the percussion cap was invented. The percussion cap contains a small charge of chemical in a small copper cuplike holder which can be quickly pressed onto to a nipple mounted in the rear of a gun barrel. When the trigger is pulled, the hammer strikes the cap, igniting the chemical which sparks through a hole in the nipple into the main charge in the barrel, firing the gun. This system offered such obvious advantages to the flintlock method that gunmakers around the world rapidly adapted their existing designs to percussion ignition, although within 50 years of accelerating firearms evolution it, too, would be obsolete. During this relatively brief time, guns would go from primitive flintlocks to the basic systems that still dominate firearms designs today. Development of effective breechloading systems was one of these concepts. From the matchlock through the early percussion era, the vast majority of guns had been "muzzle-loaders. This made reloading awkward, especially if trying to shoot a long gun from a prone position or behind cover or concealment, and, as noted earlier, became more difficult after a few shots when barrel fouling made the job more strenuous. This led to many attempts to develop a gun that loaded from the rear of the barrel, although most early efforts were not effective due to weakness of materials and the leakage of hot gases from the breech seal when the gun was fired. In the early 19th Century, various breechloading designs finally reached production in quantity. A notable example is the U. In , the breechloading Dreyse needle gun, which packed the projectile and powder together in a combustible cartridge, was adopted in Germany as the first military bolt action gun. The Civil War saw the adoption of a wide variety of breechloading systems, including those made by Sharps, Maynard, Burnside, and many others. An even more pressing concern was the relatively long time it took to reload a firearm, and the need for rapid follow-up shots. An archer could loose several arrows in the time it took a "musketeer" to reload after he had fired his weapon. In even the earliest days of firearms design, this could be addressed in a limited manner by mounting multiple barrels and usually multiple locks onto the same stock. This basic concept is still in use today, in the double barrel shotguns produced by some of the finest gun makers in the world, including firms such as Browning, Franchi, Beretta, Remington, Ruger, and Charles Daly, and is a system preferred by many discriminating hunters and competitive shooters. However, with more than two barrels, the system begins to become heavy and cumbersome. Other systems were tried, including manually rotated groups of barrels mounted to a single lock, multiple superposed charges within a single barrel, and cylindrical or rectangular clusters of chambers which could be manually repositioned to align with a firing mechanism and barrel. The most successful solution was invented by Samuel Colt. He developed a handgun design with a rotating cylinder with multiple chambers, each of which could contain a charge of powder topped by the bullet, loaded from the front of the cylinder. The rear of the cylinder was closed, with a nipple for a percussion cap installed at the back of each chamber. When the hammer is cocked, a fresh chamber rotates into alignment with the rear of the barrel, and when the trigger is pulled the hammer drops, firing the load in that chamber. This is the basis of the mechanical system still used in all revolvers today. These are called Colt Paterson models by modern collectors. Relatively few were produced, and the firm folded, having been in business only from to The idea was too good to die, and in Colt was back with a new, heavier, more powerful revolver, this time with a traditional bow type triggerguard. Prompted by an initial order from Captain Samuel Walker to equip his troops in the Mexican war, the new model tipped the scales at nearly five pounds, and remained the most powerful repeating handgun until the introduction of the . It was called the Walker Model, after the young captain.

*aim for the stars Don't limit yourselfâ€”aspire to achieve greatness, even if it seems impossible or impractical. When choosing a career path, don't settleâ€”aim for the stars!*

It has gone like a breeze. Was it not yesterday that we had the New Year celebrations, and were looking far ahead as if December was a lifetime to go? Here we are, the first midnight of already knocking on the door. Where did the whole of the year, from January till now go to? In that single year, I went to the moon and back. Tonnerre Kalala won the second leg by , but that was surely just a small dent in our path to the biggest success Nigeria had recorded prior to that time in African club football. How Time Flies A reader wrote me this week and was asking about the whereabouts of all my colleagues in that Shooting Stars team. Incidentally, I was in London last week. He is still alive, now about 82 years old, in relatively good health and ageing remarkably well in retirement. This approximates to what I sent him. The squad had about 28 players but only 16 players actually played in one match or the other throughout the competition. The entire team scored a total of 16 goals, out of which Moses Otolorin scored eight, and I scored seven. I do not recall who scored the other single goal during the competition. Of those that actually had a kick of the ball the following have passed on: He kept goal in most of the matches. He died in at 55 after working with the national junior teams of Nigeria for a few years. Played also for the national team for three years. He died in July at Dauda Adepojuâ€” Centre Half. Quiet gentlemen, but as hard as steel. Uncle to Mutiu Adepoju. He died in Ibadan a long time ago. He died in July at a very young age â€” Folorunsho Gambari Gambus â€” Defensive Midfielder. Extremely hard and hardworking defensive midfielder, reputed for his special marking tasks, including marking out Roger Miller in He died in at a very young age of around Moses Otolorin Fantasia â€” the man with the longest throws and the most powerful shots. He scored eight of the 16 goals the entire team scored in the African Club challenge. He died in December at Abai Adeleyeâ€” Very quick, left winger. He died rather quietly. I am not sure of the year. The following nine are still alive and doing relatively well. Started the competition for a few of the matches. Otherwise he also was in the national team and in great shape. Sam Ashanteâ€” Centre Half. Very Stylish and intelligent player. He now lives in Accra, Ghana. He was a coach with the MTN academy in Accra for several years. Sam Saka Abosseyâ€” Centre half. He is married to a Nigerian woman and lives in Ghana. Intelligent, calm, cool and calculative defender. Still lives in Ibadan. Greatest surprise is why he never played for the national team. He is a Rabbi and has remained unmarried all his life. Phillip Boamah Etu â€” Dashing winger. He lives with his Egba wife in Ibadan. Lives mostly in Abeokuta. Attempting to become the governor of Ogun State. There were other players in the squad but that did not feature in the matches. A few that come to my mind are: He passed on a few years ago. May those that have gone to sleep rest ever peacefully in the bosom of Our Creator, and those that are still alive be eternally grateful to the Creator, and enjoy the peace and comfort that life offers them for the rest of their time here on earth.

### Chapter 3 : Aiming For The Stars

*Aiming for the Stars September 19, Using Elias' two telescopes, more than 80 students and many faculty members passed by to spot the moon and four planets: Mars, Saturn, Jupiter and Venus.*

The P won the name Shooting Star for its speed: It was the first jet to exceed mph in level flight. The factory-fresh airplane took to the air after 2, feet of pavement. When it was about feet up and feet beyond the runway, a large puff of white smoke billowed behind it. The aircraft continued the ascent for another half-mile, at which point the canopy came off. Five seconds later, the right wing dropped and the airplane nosed over. The pilot, his parachute already unfurled, exited the right side of the aircraft. Although he cleared the cockpit, shroud lines from his chute caught in the tail assembly. The aircraft disintegrated in a small field at Oxnard Street and Satsuma Avenue in North Hollywood, producing a fireball that consumed everything within a foot radius, including the pilot. During the war years, the loss of a U. Army Air Forces test pilot was not something that garnered much notice in the press. After so many victories, he was deemed too valuable to be risked in further combat and sent home. But after the inevitable public relations and war bond tour, Bong won an assignment as a test pilot, one of the most dangerous jobs in the Army. On the day he was killed, Bong had been flying the cutting edge in military aviation, the Lockheed P Shooting Star. But the P was a dog with fleas, barely able to keep up with the piston-powered Ps and Ps of the time. The Pâ€™a highly maneuverable, winged torpedo that could exceed mph in level flight, as well as a steady gun platform with a six-barrel. The weak engines led the Air Force to experiment with rocket-assisted takeoff. A PB prototype set a world speed record in , and the more powerful PC is credited with shooting down a MiG in , but that sharp silhouette was present from the start. Reporters quickly sniffed out that several other test pilots had died in P accidents, one of them only four days before Bong. The press, the politicians, and the public all asked the same question: The last thing Henry H. He had a vested interest in jets. Working a deal to bring the Whittle engine to the United States he promised the Brits an improved design for high-speed, high-temperature turbine blades in return for one engine and all British experimental jet data , Arnold designated General Electric to begin building them under license, and hired Bell Aircraft to build the first jet fighter. But when the Airacomet fizzled and reports began streaming in of the impending arrival of a twin-engine Nazi superjet, Arnold turned to a company that the Army had turned down when it had pitched the idea of a jet fighter three years earlier. Johnson showed specifications and drawings, then threw down the gauntlet: He would deliver his jet prototype within days. Johnson would later write in his memoir, Kelly: Your time starts then. Returning to Burbank, Johnson did an end-run around company bureaucracy. He built his own manufacturing site around a small shack near the wind tunnel, and stole personnel from all over the plant. His team bought out a local machine shop to get the tooling it needed, built walls from a vast supply of wooden packing crates that came with the Wright Cyclone engines that powered their Hudson bombers, and topped off the ad hoc facility with a big top rented from a local circus. But the secrecy, drafty surroundings, and merciless schedule wore on the L team: Flu season had arrived, and up to half the staff was out sick at any one time. Even the cops seemed to be against them: But on day of the contract, a spinach-green XP christened Lulu Belle was rolled out for its maiden flight. Only three weeks after that first flight, with most of Europe firmly under German control and the thought of jet-powered Me s picking off U. Arnold promptly amended the order to include 13 more, identifying them as YPAs. A week later, Arnold authorized buying an additional PAsâ€™all before a single one of the first GE-powered jets had taken to the sky. But they did have Lulu Belle, and it was impressive. After the gear and flaps were up, it seemed almost like something you would dream about.

**Chapter 4 : Aiming for the Stars | Contemporary And**

*Without question "Aiming for the Stars" is an eloquent explanation of the significance of theorists, innovators, scientists, and engineers in the twentieth century who tried to translate their visions of space exploration--although only partly successfully--into reality.*

Mwaba, who lives and works in Lusaka but is currently a fellow of the KfW Stiftung in Frankfurt, speaks to our author Magnus Rosengarten about his new exhibition. You move a lot between the realms of imagination and reality in your creative process. How does it enhance your creative process? I totally agree, I am always moving back and forth. At the moment I am very interested in dealing with archival materials. I am coming from a background where most of the history has been orally translated to the next generation. I think there are a lot of gaps, and I fill in the gaps with imagination. Courtesy of the artist MR: It is named after the spacecraft developed by the late Zambian science teacher Edward Makuka Nkoloso who in founded the National Academy of Science, Space Research and Philosophy, an unofficial space academy. He wanted to send a spaceship to Mars. Is your work informed by the concept of Afrofuturism? During the period of Zambian independence , there was this connection between freedom, independence and space. When you look at the recent history of Zambia, our mines literally collapsed a decade after independence and the economy went down. And Nkoloso is one of those people who had this huge dream of going into space. You went into archives for this project as well. At some point he became more of an intelligence figure and was very close to President Kenneth Kaunda. I found a lot of pictures and also got a very short video. It shows Nkoloso training. He talks about where he is planning to launch his spaceship. It also shows Martha Mwamba, the girl who Nkoloso was planning to send into space for the first time. A woman going into space in the s? I think it is really interesting because there are things you really need to understand. There are a lot of issues around gender inequality now. I think back then women had a more prominent position. A more contextual question. Who is your work addressed to? I come from a background where I do a lot of social work. The story around Nkoloso sounds like a fiction, for example. And I did a small workshop where I showed a video to young girls. In that group we started imagining what Mars is like? And I think being here in Germany, the work really addresses the ongoing misconception of the African continent and its people. It is also for me to talk about my inspiration. This was a race: It was a big thing and we were in the race too. It really talks about my inspiration, as an African, as a Zambian, and as an artist. What does the current presence of China in Zambia mean to you? On the one hand China is offering options to Africa. We did not have so many options before. Our economy is growing because China is there. There is so much talk about economic colonization, but I think that was in place already. China is not the one introducing it; China is simply coming to Africa for the same reason Europeans came. On the other hand, I am not sure if you can trust them. They are grabbing a lot of land. They treat workers badly. My work is about asking long-term questions. Are we going to be ripped-off, like always, or are we going to benefit? But I think it is really up to us, Zambians, to choose which direction to go. What does cabbage symbolize to you? I never really knew the vegetable growing up. We ate other vegetables. But it is there now and it has changed the vegetable landscape. It really is a material that reflects what is happening in Zambia. My work is framed around a simple primary school experiment to do with how plants absorb minerals and water? The cabbage works really well. It is unbelievable how it absorbs the different food colours I put it into the water. How has your residency in Berlin affected your practice? It has been an amazing time to see a lot of art around from everywhere, but also the African artists in the diaspora, just seeing what their work represents. There is a model, you have this system, somehow you have to fit in according to the demand, what you are expected to say. It also helped me to think about what I do, and why I think my work is important. Why is your work important? For so many reasons, even if I struggle sometimes with the issue of audiences. My work is sometimes displayed not as art but more as an educational tool. I am really happy I can educate viewers, but it is good to withdraw it and place the work in a space where a completely different audience sees it. It shifts the message in a way. He lives in New York City and currently works towards his M.

## Chapter 5 : Aiming for the stars | BusinessWorld

*Aiming for the Stars* Our author Magnus Rosengarten speaks with the artist about his new solo exhibition *Stary Mwaba, Copper, Cobalt and Manganese Cabbage*, , installation (detail).

## Chapter 6 : Aiming for the Stars: The Dreamers and Doers of the Space Age by Tom D. Crouch

*Significantly, his tuneups for the US Open culminated in triumph at the Cincinnati Masters, making him the first in the sport's history to complete the career Golden Masters. And with Flushing Meadows up next, he was riding a wave of momentum and goodwill that belied his underdog status.*

## Chapter 7 : Shooting star show's brilliant history - Technology & science - Space - calendrierdelascience.com

*Dropping out of school is a growing trend for young minority men. North Lake College recently hosted a competition designed to challenge and reward academic excellence and Cathy Whiteman was there.*

## Chapter 8 : Shooting Star | History | Air & Space Magazine

*Aiming for the Stars* explores the motivations, goals, trials, and triumphs of the people who pioneered space exploration from the sixteenth century to the modern era.

## Chapter 9 : Aiming for the Stars, Artemis | Cardfight!! Vanguard Wiki | FANDOM powered by Wikia

*Strive or aim for, as in We're shooting for higher production by spring. This term, alluding to aiming at something with a weapon, has largely replaced the earlier shoot at, which dates from the s.*