

Chapter 1 : Pentagon Planning a Three-Front "Long War"™ Against China and Russia

Putting the Pentagon's Pennies in Perspective. To put this massive increase in perspective, here are a few other examples of what you could buy for \$80 billion: Subscribe.

Similarly, whether China and Russia truly seek to undermine the existing world order or simply make it less American-centric is a question that deserves close attention, just not today. The reason is simple enough. It has committed itself and the nation to a three-front geopolitical struggle to resist Chinese and Russian advances in Asia, Europe, and the Middle East. To fully appreciate the momentous changes occurring in U. This alarmed and even angered those in the regular military whose moment, it seems, has now finally arrived. Iran and North Korea are also identified as major threats, but of a distinctly secondary nature compared to the menace posed by the two great-power competitors. Unsurprisingly enough, this shift will require not only greater spending on costly, high-tech military hardware but also a redrawing of the global strategic map to favor the regular military. During the long war on terror, geography and boundaries appeared less important, given that terrorist cells seemed capable of operating anywhere where order was breaking down. On the new geopolitical map, however, America faces well-armed adversaries with every intention of protecting their borders, so U. In Asia, the U. In Europe, the U. Expect most upcoming major military investments and initiatives to focus on bolstering U. The senior commanders of these meta-organizations are the most powerful U. Such missiles, he explained, could strike U. Admiral Harris called for vastly increasing investment in such weaponry in order to overpower current and future Chinese capabilities and ensure U. The European Theater U. For him, Russia is the other China. For American military and intelligence officials, however, Russia unquestionably poses the preeminent threat to U. It is now being spoken of in a fashion that should bring back memories of the Cold War era. Most of those funds will be used to stockpile munitions in the front-line states, enhance Air Force basing infrastructure, conduct increased joint military exercises with allied forces, and rotate additional U. Like his counterpart in the Pacific theater, General Scaparrotti also turns out to have an expensive wish list of future weaponry, including advanced planes, missiles, and other high-tech weapons that, he claims, will counter modernizing Russian forces. Between East and West: Joseph Votel, the top U. Vern Jensen, the aircraft handling officer for the ship, Aug. The Nimitz is in the Persian Gulf, and fighter jets are flying off the aircraft to conduct strikes in Iraq and Syria. China is also seeking to enhance its geopolitical clout both economically and through a small but growing military presence. An Invitation to Disaster Russian army soldiers drive their tanks along the Red Square during a general rehearsal for the Victory Day military parade. In relatively swift fashion, American military leaders have followed up their claim that the U. Under their plan, American military forces "reinforced by the armies of trusted allies" should garrison every segment of this line, a grandiose scheme to block hypothetical advances of Chinese and Russian influence that, in its global reach, should stagger the imagination. Much of future history could be shaped by such an outsized effort. Questions for the future include whether this is either a sound strategic policy or truly sustainable. Attempting to contain China and Russia in such a manner will undoubtedly provoke countermoves, some undoubtedly difficult to resist, including cyber attacks and various kinds of economic warfare. And if you imagined that a war on terror across huge swaths of the planet represented a significant global overreach for a single power, just wait. Maintaining large and heavily-equipped forces on three extended fronts will also prove exceedingly costly and will certainly conflict with domestic spending priorities and possibly provoke a divisive debate over the reinstatement of the draft. However, the real question "unasked in Washington at the moment" is: Why pursue such a policy in the first place? What appears particularly worrisome about this three-front strategy is its immense capacity for confrontation, miscalculation, escalation, and finally actual war rather than simply grandiose war planning. At any moment, one of these encounters could provoke a firefight leading to unintended escalation and, in the end, possibly all-out combat. From there, almost anything could happen, even the use of nuclear weapons. Clearly, officials in Washington should be thinking hard before committing Americans to a strategy that will make this increasingly likely and could turn what is still long-war planning into an actual long war with deadly

consequences. Follow him on Twitter at [mklare1](#).

Chapter 2 : calendrierdelascience.com: Pentagon

"This is a two-year contract, with three option periods: one for three years, another for three years, and a final one for two years," Heather Babb, Pentagon spokeswoman told TechCrunch.

Visit Website Did you know? Though an incomplete version of the Pentagon Papers was published in book form later in , the study remained officially classified until June , when the U. By , however, Ellsberg had come to believe that the war in Vietnam was unwinnable. He also believed that the information contained in the Pentagon Papers about U. After secretly photocopying large sections of the report, Ellsberg approached several members of Congress, none of whom took action. Some of the most damning information in the Pentagon Papers indicate that the administration of John F. The report also contradicted official U. New York Times v. United States Beginning on June 13, , the Times published a series of front-page articles based on the information contained in the Pentagon Papers. After the third article, the U. Department of Justice got a temporary restraining order against further publication of the material, arguing that it was detrimental to U. In the now-famous case of New York Times Co. United States, the Times and the Washington Post joined forces to fight for the right to publish, and on June 30 the U. In addition to publication in the Times, Post, Boston Globe and other newspapers, portions of the Pentagon Papers entered the public record when Senator Mike Gravel of Alaska , an outspoken critic of the Vietnam War , read them aloud in a Senate subcommittee hearing. These published portions revealed that the presidential administrations of Harry S. Eisenhower , John F. Kennedy and Lyndon B. Johnson had all misled the public about the degree of U. Impact of the Pentagon Papers Published at a time when support for U. Though the study did not cover the policies of President Richard M. Nixon , the revelations included within it were embarrassing, particularly as Nixon was up for reelection in In supporting the freedom of the press guaranteed in the First Amendment of the U. The so-called plumbers, E. Howard Hunt and G.

Chapter 3 : The Pentagon - Wikipedia

FINANCIAL STATEMENT FRAUD: PERSPECTIVE OF THE PENTAGON FRAUD MODEL IN INDONESIA with a total loss of more than \$ billion from the 2, cases of fraud.

Today is Sunday, February 4, and welcome to the Truth Perspective everyone. Welcome to the show Dilyana. Hello and thank you for having me and taking an interest in my investigations. Well we appreciate you spending the time with us today to discuss those investigations. This is the Bulgarian capital. My country was one of them but the organizer of this scheme, this international criminal scheme, was not my country. If you want me to start with this investigation I can continue. The main organizer of this criminal scheme was the Pentagon and the CIA and I have documents proving this involvement and also Saudi Arabia. They sold weapons to the US Special Operations Command and covert program of the Pentagon and the CIA and these weapons were transported to different war zones on diplomatic flights provided by the Azeri state run company Silkway Airlines. So you can see how many have been involved in this international weapons shipments to terrorists in Syria. Unfortunately so far we have nobody held to account because the result is appalling. More than , people in Syria have already been killed by the very same weapons. Everybody talks about how disgusting this war is. Everybody says "We are against terrorism" but actually they have been secretly facilitating this terrorist zone because if the terrorists had not had these weapons they could not have established their caliphate and not have killed so many people in Syria as well as other places. I have documents on diplomatic flights with weapons to Syria and Yemen and Iraq, Afghanistan, Pakistan, Congo and Qatar who also sells around the world. And all these flights were performed in the last three years. This is what I have documented. Dilyana, maybe you can tell our listeners how you first found out about these connections because you were actually a correspondent on the ground in Syria. I was accompanied with a local cameraman and producer and my local sources. Where did you get the information from? I can assure you all the journalists who were covering this war there, all of them were able to go inside if they wished and to film these weapons. If they wanted to carry out an investigation they could have carried out such investigations and they would have help from this weapons supplies a long time ago. They just did not want to do that. I have no explanation. Well Dilyana, at some point in the midst of your doing your correspondence work in Syria, some documents were leaked to you. Can you tell us a little bit about that and how that helped your investigation? When I filmed the Bulgarian weapons, the weapons had serial numbers, they had labels with the manufacturer and the Bulgarian company which exported these weapons. So I traced back these shipments when I got back to my home country and I started publishing a series of reports on these weapons shipments but a few months after my first report from Aleppo I got a message on Twitter from an anonymous Twitter account and I was leaked secret documents which were diplomatic notes between a number of embassies, not only in Bulgaria but also in other countries, mainly Balkan countries. This was the first bundle, between them and the Azerbaijani Ministry of Foreign Affairs, the Bulgarian Ministry of Foreign Affairs and many other embassies. So in these leaked documents I found out the documentation which proved the diplomatic scheme, actually how all these countries supplied weapons on diplomatic flights and under diplomatic cover to the US Special Operations Command which transported these weapons to Syria and the diplomatic cover, diplomatic flights exempt of checks, inspections and air bills. Even now we can exactly see the type and the quantity of the weapons which was shipped to Syria. I published a link to these documents online because I wanted people to see the documents and to believe me because in the beginning my reports were met with silence in my country and with rejection. I was accused of betraying the interests of my country and several allegations. But it still does not explain why I published these revelations. Every human being must do the same because I do believe if we all fight against such criminal schemes, we can somehow stop them when we shed lights on weapons supplies, sooner or later these supplies will stop and they understand that as soon as I started publishing my reports, other journalist also got involved. They also published the documents and started investigating the weapons supplies to terrorists from their countries and finally the US government announced the termination of the program. Actually this was the first time when Donald Trump

confirmed the existence of such a program initially. So even though the United States still uses Bulgarian weapons in other places, this is another issue. These were not moderate rebels. That reminds me of the story just in the last week. There was something going on in Syria. I think it might have been the downing of the Russian jet just yesterday. It might have been the BBC, but a big western media organization had put out a headline saying that rebel group claims responsibility for downing the jet and then in the article it names the rebel group as Right, and it even says in there "A known affiliate of Al-Qaeda in Syria". They just ignored such tragedies. Many other examples can be given but the point is that finally the world starts to realize the truth. The truth is abhorrent. All the countries, from Europe and the United States, Saudi Arabia, supplied the weapons to the terrorists in Syria on the pretext that these are honest revolutionaries fighting against Bashar Al-Assad. Always I get the same question - are you supporting Bashar Al-Assad? You can find nationals among the terrorists from 86 countries. How come all these nationals from 86 countries, how come they cross the border and enter Syria? They were facilitated, not only to penetrate Syria but also to be heavily armed and launch attacks on civilians in Syria so that they can topple the Assad regime. Unfortunately five years later we have more than half a million people dead and nobody will be held to account. You were not only looking at it from the eyes of a journalist but you were on the ground there. My impression is it has hit you on a visceral level. Yes I must confirm that I try to be not prejudiced and to set aside all these emotions but there are a lot of stories which struck me, and which haunt me still. It has a name. It is not anonymous. So I was inside a hotel in Aleppo with many western journalists by the way, and a rocket fell next to us and we heard a huge blast, so high, the rest of the journalists left because they knew that this rocket came from eastern Aleppo where the so-called moderate rebels were located. They are hitting civilians in western Aleppo, the terrorists, not the Syrian government or the Russian forces on the ground in Aleppo. I tried to explain to people in Bulgaria "Look what our government is doing. Look what happened in Aleppo. The Bulgarian rocket killed that child and beheaded a 5-year-old child with his mother while heading to the market to buy food. And when you see the death yourself, it really matters. It was not only this child. A lot of children there beheaded the same way, a whole lot, just because governments from the other part of the world want to topple another government in the other part of the world. Every crisis has a political solution but war is not a solution. We have this saying here in my country "The first victim of every war is the truth" and this is what happened to Syria. The first victim of the war in Syria was the truth. From the very first day people were lied to by the media and this was regularly shown. What happened here is in the beginning so me of the protests were against the regime and people did want a change but very soon their protests were hijacked by foreign powers and they turned these peaceful protests into a bloodshed. Yeah, some social media luckily. This is the price sometimes. We have to choose between our wellbeing and our conscience and our duty. Because for me I felt ashamed and I felt terrible in Syria when people asked me where I came from and when I asked them. The first question I got was "Why are you sending weapons to terrorist to kill our children? I asked what people think of Bulgaria and other Balkan states and they replied "Terrorists", but this is not true. Yes, Bulgarian weapons are provided to terrorists in Syria but they were transported on diplomatic flights by the Pentagon and the CIA. It sounds like science fiction but I can provide the documents proving that allegation. All this was well prepared and as a result, finally, we have one of the biggest wars in the last decade, the war in Syria. Just getting back to the response from the people of Bulgaria, at some point you had put out a few of these articles in Trud newspaper and the Bulgarian intelligence agencies had called you in to discuss your research with you. Could you tell us a little bit about what happened there and why they called you in? In the beginning the Bulgarian prosecutor launched an investigation into the Bulgarian weapons supplied to terrorists in Aleppo but nobody even asked me to provide this footage and I was the only witness and nobody even questioned me. A few weeks later they came to the conclusion that there was no wrongdoing by the manufacturer of those weapons and the company which exported the weapons, so all was fine. They said Bulgaria has not sent weapons to terrorists in Syria which was obvious. The scheme was under diplomatic cover and I provided evidence and documents. I want to explain legislation in Bulgaria. Every weapons export from Bulgaria must be approved by a special commission which includes members of the Bulgarian government and the director of the Bulgarian National Security Agency. So all these weapons export have been approved by Bulgarian officials, by the Bulgarian

government and by the director of the Bulgarian National Security Agency. Furthermore I provided footage and evidence from the terrorists in Aleppo that Bulgarian weapons ended up in the hands of terrorists. They ignored that fact and instead of investigating the crimes, mainly weapons shipments to terrorists, they investigated me and my sources. I was interrogated by the Bulgarian National Security Agency. They wanted me to disclose my sources. No, because my understanding of how a journalist must protect its sources allows me to do that. They did not want me to go back to Syria to continue the investigation because I was about to travel again to Syria in order to finish this investigation. Have you been working independently since then or have you been working with another paper? I am a freelance journalist. It was a huge humiliation for me. I was in a position to try to justify my reports that I risked my life for in Aleppo!

Chapter 4 : 9/11 Perspective

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Thanks for being here today. Now, as its name implies, Better Buying Power 3. Now, Better Buying Power 1. And Secretary Gates said, "The era of increasing defense budgets in terms of real increases is over. Now, demand for our forces has remained high during this time, as you all know in this room. And so we had to focus our attention on force structure, capacity. We had to have enough forces to respond to what was happening in the world. We had to pay our people. And we had to pay for readiness. So something had to give. And the place where it gave was in our modernization accounts. So without question for the last three years, our department has been chronically under-investing in weapons and new capabilities. And that is something that really, really bothers us here in the department. Now, the original goal of Better Buying Power, which was to do more without more, remains our overriding focus. But Better Buying Power 3. We all think this is one of the biggest issues facing our department and our nation. Since the beginning of World War II, all of our approaches in defense have assumed that we would have technical dominance over all of our adversaries, and I think Dwight Eisenhower said it really well right after World War II. And they have been pushing specifically since they can study the way we go to war and the way we do business. They can apply their resources in a very, very targeted way. So whereas Better Buying Power 1. We are trying to identify, develop and field breakthrough technologies and systems that develop innovated operational -- innovative operational concepts to help us use current capabilities in new ways. I think you all heard that recently we fired a Tomahawk land attack missile, but we targeted it at a ship at sea without ever changing its seeker. And we demonstrated our capability of doing so, taking a weapon we already have and using it in a different way. But the ultimate aim is to develop what we refer to as the Third Offset Strategy, or Strategies, because of our various challenges that we face as a nation are going to probably need unique strategies to address. And Frank is leading that effort also. Now, before I became the deputy secretary, I studied up a lot on the Second Offset Strategy, which we adopted in the s. And I got to tell you, it is an extremely fascinating story, because commercial industry and the department worked hand in glove to come up with that offset strategy, which exploited guided munitions, battle networks that employed them, stealth aircraft, new sensors and, most importantly -- a lot of people forget this -- they coupled it with a smaller, professional, all-volunteer force. Many of the key technologies that are going to be associated with this offset strategy are going to come from the commercial sector -- robotics, autonomous guidance systems, visualization, big data, biotechnology, miniaturization, advanced computing, additive manufacturing, whereas in the s, most of the things were being pulled the U. But today, all of the commercial industries are really focused on these capabilities that many, many different people are going to be using in different ways on the military battlefield. So that means we have to devise new ways of engaging the commercial sector. Frank is trying to work through those. But we have to make sure that we can exploit all of the things that are going on in commercial industry so that our war fighters will be better off in the future. We must continue to attract and retain the highest-quality people we can. We have to make sure our acquisition workforce is as innovative and creative and vibrant as what we see in the commercial industry. Frank is focusing on professionalism and technical excellence, getting into the department the right people from those engineering disciplines that we really need to have. You know, science, technology, engineering and math. I want to stop by congratulating Frank and his entire team. They have been working on 3. They have been iterating it constantly. And they have really done a tremendous job, in my view, of implementing Better Buying Power 3. All - always focused on our war fighters. Thank you very much for being here this afternoon. Like I said, I just wanted to take the opportunity to brag on Frank and his folks. And I really thank you all for being here this afternoon. Thank you, Deputy Secretary. What you have is a large document, which is the implementing instructions for 3. And basically, writing the policy and talking about the intent is just the start of this process. We released a draft last fall. We put it out for comment. We got an enormous amount of feedback from industry. We got an enormous amount of feedback from think

tanks and other institutions. And we worked with the Hill on some of this. We took a fairly longer period of time, actually, than I had originally intended to get to implementing instructions. There were a few distractions along the way. It is not everything we will do, but it is a good set of action items for us to take going forward. And it is essentially our management forum to implement all of these things, track them, identify other things that we can do and continue to make progress. And it occurred to me, almost a year ago now, that we needed to move in the direction of doing more about our products and technical excellence and innovation and sustained technological superiority in general. And that was what the focus is here. And you see them on the list and in the write-up, a lot of the things that are designed to improve efficiency and productivity. I want to mention a few of the things that are in here. Some of the core initiatives that have been in every iteration, basically, of Better Buying Power are continued. Those include things like affordability caps for our programs so people have to design within a cost constraint. And that cost constraint is based on realistic projections about future budgets. Competition would be in any issue of Better Buying Power as well. And there are a lot of ways we can do that. Effective incentives work the same way, financial incentives for industry in particular. I want to pay people reasonable profits, but I want them to earn them. And then professionalism, emphasizing in this case professionalism in the technical areas, engineering and science. But professionalism of the workforce is another core value. One is increased emphasis on being more responsive to threat changes. So it means we design for upgrades. It means we have a tighter relationship between our requirements communities, our acquisition communities and our intelligence community. Cybersecurity is a pervasive problem for the department. And it includes the industrial base that supports us and their databases and their information. It includes what we hold in government. It includes the logistics support information, the sustainment information, the design information, the tactical information. Everything associated with the product is a potential point of attack. So cybersecurity is going to be a major emphasis going forward that all of our managers need to be much more conscious of, and we need them to be much more attentive about best practices there and again staying ahead of the threat. The deputy mentioned barriers to commercial firms doing business with us. It includes our funded corporate research and development. We decided to start this last fall and we already kicked this off already. Steve Welby, my lead system engineer and the nominee to be assistant secretary for research and engineering, is leading that effort. And it -- the goal among other things is to identify the technologies that can lead to the kind of offset strategy that Deputy Secretary Work talked about. I mentioned modular designs and open standards as a way to bring things in more quickly and to give people the chance to innovate and offer us products that they might be able to offer us otherwise. I think in general, we need to have a better interchange of information with industry. We need to ask industry to exercise their creative energy and do concept definition work for us early on before we finalize our requirements. And I think all of this will lead to better ideas and more realistic requirements and earlier identification of direction for the department to go in that will allow industry to make some of their own investments to be competitive at the same time. So that -- that should help there. The category of professionalism I mentioned earlier. We have a great workforce, but I think we can do -- we can all learn. We can all be better. We want well qualified, well experienced technical managers running our development programs. Last fall -- I got one laugh for that. Carter and I did the first iteration in And neither one of us thought at the time that we would necessarily do any more iterations of it. But what happened was that over time, ideas came forward, needs to shift emphasis to kind of readjust came forward. The initial iteration that Dr. Carter and I did was about best practices. The second iteration was much more about technical judgment, good judgment, and professionalism, and empowering people.

Chapter 5 : Putting the Pentagon \$10B JEDI cloud contract into perspective - DeepFind

"Before the Pentagon can hold artificial intelligence accountable, it will have to find it. Auditing the Department of Defense is a daunting task to begin with, and trying to figure out within that budget the full scale of existing spending on AI likely requires the audit as a prerequisite. At an.

We present some mathematical ideas that occur in art and computer graphics. We touch upon the geometry of similar triangles, rigid motions in three space, perspective transformations, and projective geometry. We discuss computations behind rendering objects in perspective. We then describe vanishing points, answer how to measure distance in a receding direction in a perspective drawing and why a circle in three space becomes an ellipse when drawn in perspective. Artists now make amazing images using computers e. But taking into account the complexity of all the physical laws of light requires extensive computation. We shall concentrate on the geometry of drawing objects, which can be described by points in space. This note is a slightly expanded version of lecture notes [TA]. A mathematical theory of perspective drawing could only be developed when the Renaissance freed painters to depict nature in a way closer to what they observed [IW]. The biographer Vasari says that the Florentine architect Filippo Brunelleschi studied Greek geometry, developed a theory of perspective and undertook painting just to apply his geometry [KM]. The first treatise, Della pittura by Leone Battista Alberti furnished most of the rules. Our diagram of the perspective view of the circle occurs in his text. A complete mathematical treatment De prospectiva pingendi was given by the Italian fresco painter Piero della Francesca Leonardo da Vinci incorporated geometry in his painting and wrote a now lost text on perspective Tratto della pittura. Alberti was first to ask if two drawing screens are interposed between the viewer and the object, and the object is projected onto both resulting in two different pictures of the same scene, what properties do the two pictures have in common [KM2]. What do the two projections have in common? This question prompted the development of a new subject, projective geometry whose exponent was Girard Desargues Desargues studied perspective geometry from a synthetic point of view, meaning he built up the geometry from axioms about points, lines and planes. A sampling is given in the section on projective geometry. There we address the question why the perspective image of a circle necessarily the ellipse. It can also be answered using analytic geometry methods, such as in our chapter on analytic geometry, where first, points and lines are reduced to equations. A modern deductive footing for perspective drawing was given later by Brook Taylor and J. Their work spurred the development of algebraic geometry. However, complicated drawing situations require more analysis [EB], [EM]. If a student wishes to pursue linear perspective in the history and art see, e. Many of our illustrations were generated by the MAPLE symbolic algebra, graphics and computation system. Other graphics packages to render differential geometric objects, e. Parallel transformation of points. The perspective transformations that describe how a point in three space is mapped to the drawing plane can be simply explained using elementary geometry. We begin by setting up coordinates. A projection involves two coordinate systems. If we use the standard right handed Projecting an object to the drawing plane. On the drawing plane, we let u be the horizontal variable and v the vertical. We can measure the distances between pairs of points in the usual way using the Euclidean metric. Parallel projection has the further property that ratios are preserved. That is if X_1, X_2, X_3 and X_4 are collinear points in the object, then the ratio of distances is preserved under parallel projection Of course denominators are assumed to be nonzero. It consists of the points $[0,0,0], [0,0,3], [3, 0,0]$. MAPLE generated 3d plot of house. The most frequent parallel projections are called elevations, oblique projections and isometric projections. The elevations are just the front, top and side views of the object. Of course horizontal and vertical lines also preserve measurement. Any unit vector w will do as well. Rotation of Vectors Let R denote a rotation in the plane which moves points x,y about the origin an angle h_0 . A variant of oblique projection is called military projection. In this case the horizontal sections are isometrically drawn so that the floor plans are not distorted and the verticals are drawn at an angle. The military projection is given by rotation in the $x-y$ plane and a vertical translation an amount z . Note that the floorplan is drawn rotated but without distortion. MAPLE generated military projection. The isometric projections are that class or parallel projections for which a round

sphere projects to a round circle. As mentioned before, parallel lines and proportions are preserved. We now describe the perspective transformation. It is the composition of a rigid motion followed by the perspective transformation that reduces distant objects. Let the new vector eye to center be the displacement dp : Then we rotate the object around the origin. Every rotation is the composition of a rotation around the z -axis by an angle h , around the new x -axis by an angle k and around the y -axis by an angle l . The three angles h , k , l are called the Euler angles. We only need the first two rotations, and we can compute the cosines and sines involved using only the eyepoint and centerpoint coordinates. The second rotation takes rdp to $(0, r_2, 0)$. MAPLE generated orthogonal projection. Because light reflecting off the object travels in straight lines, the object point is seen on the drawing plane at the point where the line from the eyepoint to the object point intersects the drawing plane. It follows that similar triangles are used in computing perspective projection. This is just the x - z -coordinates of the perpendicular transformation divided by the depth y -coordinate. Using the same eyepoint and centerpoint as for the perpendicular transformation, we plot the house by perspective transformation. MAPLE generated perspective projection. Perspective transformations have the property that parallel lines on the object are mapped to pencils of lines passing through a fixed point in the drawing plane. To see this, note that each line in the rotated object lies in the plane passing through the line and through the eyepoint. This plane intersects the drawing plane in a line hence the image of a line in space is a line in the drawing. Any parallel lines in the object are parallel to the drawing plane or not. If the lines are parallel to the drawing plane the y -coordinates on the line are constant then the division by the depth the y coordinate of the rotated object is division by constant. Thus the formula reduces to a constant multiple of the numerator which is an affine transformation that maps parallel lines to parallel lines. If the parallel lines are not parallel with the drawing plane, then their image on the drawing plane passes through a fixed point, called the vanishing point. The easiest way to see this is to consider a pair of points on two parallel lines that travel together away from the drawing plane. Imagine that a wire of fixed length connects the points. Because the pair can get farther and farther from the drawing plane without letting go the wire, their perspective images get closer and closer in the drawing since the denominators are getting large whereas the difference in their x, z directions are bounded. For general choices of the eyepoint and centerpoint, the parallel lines originally in the x , y and z -axis directions are not rotated to a position parallel to the drawing plane. Thus these three directions each have their own vanishing points. This is called three-point perspective. The three points may not so easily be seen since they may not be within the cone of vision that limits the width of our view. To illustrate one and two point perspective we change our eye and center points to guarantee some parallel lines parallel to the drawing plane. Let us consider specific choices of eyepoint and centerpoint for which some of the object's axes are parallel to the drawing plane. The perpendicular projection is just the front elevation and the perspective view has one vanishing point corresponding to the y -axis direction. The vanishing point is indicated it is the position of the centerpoint. MAPLE generated front elevation and one point perspective projection. The perpendicular projection is now a corner elevation and the perspective view has two vanishing points corresponding to the x - and y -axis directions. The centerpoint is indicated. MAPLE generated orthogonal and two-point perspective projection. This time the horizontal lines are parallel to the drawing plane but the vertical and receding lines are not. Therefore the vanishing points correspond to the vertical and receding directions. Using vanishing points and measuring points. It is possible for the computer to plot points outside the cone of vision, but such a drawing has a distortion like a fisheye camera photo. MAPLE generated perspective view of unit cube showing vanishing points. How do we locate the vanishing points in the drawing? The vanishing points for the x -axis and y -axis parallels are always on the horizon line. This is easiest to see by imagining the top view. MAPLE generated perspective view and construction of vanishing points from top view. The drawing plane is a distance d from the eyepoint E . The rays emanating from the eyepoint at right angles parallel to the y and x -axes are the line segments EA and EB . A is the u -coordinate of the y -axis vanishing point $V1$ and B is the u -coordinate of the x -axis vanishing point $V2$. A circle whose center is on the drawing line and passes through the eyepoint intersects the drawing line at two points, say A and B for which $\angle AEB$ is a right angle.

Chapter 6 : Pentagon Papers - HISTORY

The Pentagon is letting down women who serve. Defense Secretary Jim Mattis at the White House on Feb. 7. (Jabin Botsford/The Washington Post) Perspective. These are the women in my life who.

This process was described by Euclid in his Elements circa BC. Draw a line through O and A. Or if one extends the sides until the non-adjacent sides meet, one obtains a larger pentagram. The accuracy of this method depends on the accuracy of the protractor used to measure the angles. Physical methods[edit] Overhand knot of a paper strip A regular pentagon may be created from just a strip of paper by tying an overhand knot into the strip and carefully flattening the knot by pulling the ends of the paper strip. Folding one of the ends back over the pentagon will reveal a pentagram when backlit. Construct a regular hexagon on stiff paper or card. Crease along the three diameters between opposite vertices. Cut from one vertex to the center to make an equilateral triangular flap. Fix this flap underneath its neighbor to make a pentagonal pyramid. The base of the pyramid is a regular pentagon. Symmetry[edit] Symmetries of a regular pentagon. Vertices are colored by their symmetry positions. Blue mirror lines are drawn through vertices and edges. Gyration orders are given in the center. The regular pentagon has Dih5 symmetry , order 5. Since 5 is a prime number there is one subgroup with dihedral symmetry: Dih1, and 2 cyclic group symmetries: These 4 symmetries can be seen in 4 distinct symmetries on the pentagon. John Conway labels these by a letter and group order. The dihedral symmetries are divided depending on whether they pass through vertices d for diagonal or edges p for perpendiculars , and i when reflection lines path through both edges and vertices. Cyclic symmetries in the middle column are labeled as g for their central gyration orders. Each subgroup symmetry allows one or more degrees of freedom for irregular forms. Only the g5 subgroup has no degrees of freedom but can be seen as directed edges. Equilateral pentagon Equilateral pentagon built with four equal circles disposed in a chain. An equilateral pentagon is a polygon with five sides of equal length. However, its five internal angles can take a range of sets of values, thus permitting it to form a family of pentagons. In contrast, the regular pentagon is unique up to similarity, because it is equilateral and, moreover, it is equiangular its five angles are equal. Cyclic pentagons[edit] A cyclic pentagon is one for which a circle called the circumcircle goes through all five vertices. The regular pentagon is an example of a cyclic pentagon. The area of a cyclic pentagon, whether regular or not, can be expressed as one fourth the square root of one of the roots of a septic equation whose coefficients are functions of the sides of the pentagon. In a Robbins pentagon, either all diagonals are rational or all are irrational, and it is conjectured that all the diagonals must be rational.

Chapter 7 : Pentagon Criticized for “Spray and Pray”™ Approach to Innovation “ Foreign Policy

How to Draw a 3D Pentagon. Part of the series: Drawing 3D Shapes. A pentagon is a shape that has five distinct sides. Draw a 3D pentagon with help from an artist in this free video clip.

The War Department, which was a civilian agency created to administer the U. Army , was spread out in additional temporary buildings on the National Mall, as well as dozens of other buildings in Washington, D. Secretary of War Henry L. Stimson found the situation unacceptable, with the Munitions Building overcrowded and the department spread out. Roosevelt in May that the War Department needed additional space. On July 17, , a congressional hearing took place, organized by Virginia congressman Clifton Woodrum , regarding proposals for new War Department buildings. Reaybold agreed to report back to the congressman within five days. The War Department called upon its construction chief, General Brehon Somervell , to come up with a plan. The Department of War headquarters was in the Munitions Building for several years before moving into the Pentagon. Requirements for the new building were that it be no more than four stories tall, and that it use a minimal amount of steel. The requirements meant that, instead of rising vertically, the building would be sprawling over a large area. Freed of the constraints of the asymmetric Arlington Farms site, it was modified into a regular pentagon which resembled the fortifications of the gunpowder age. At times the construction work got ahead of the design, with different materials used than specified in the plans. Witmer replaced Bergstrom as chief architect on April 11 after Bergstrom resigned due to charges, unrelated to the Pentagon project, of improper conduct while he was president of the American Institute of Architects. Two retaining walls were built to compensate for the elevation variations, and cast-in-place Franki piles were used to deal with the soil conditions. Pentagon Renovation Program From to , the Pentagon was completely gutted and reconstructed in phases to bring it up to modern standards and improve security and efficiency. Asbestos was removed and all office windows sealed. These offices used cross-ventilation from operable windows instead of air conditioning for cooling. Gradually, bays were subdivided into private offices with many using window air conditioning units. With renovations now complete, the new space includes a return to open office bays, a new Universal Space Plan of standardized office furniture and partitions developed by Studios Architecture. All 59 civilians and the 5 terrorists on the airliner were killed, as were 70 civilians and 55 military personnel who were in the building. The impact of the plane severely damaged the outer ring of one wing of the building and caused its partial collapse. Only of 4, people who would have been in the area were there because of the work. Furthermore, the area hit, on the side of the Heliport facade, was the section best prepared for such an attack. The renovation there, improvements which resulted from the Oklahoma City bombing , had nearly been completed. The area struck by the plane also had blast-resistant windowsâ€”2 inches thick and 2, pounds eachâ€”that stayed intact during the crash and fire. It had fire doors that opened automatically and newly built exits that allowed people to get out. This additional project was named the " Phoenix Project ," and was charged with having the outermost offices of the damaged section occupied by September 11, For the fifth anniversary of the September 11, attacks, a memorial of beams of light shone up from the center courtyard of the Pentagon, one light for each victim of the attack. In addition, an American flag is hung each year on the side of the Pentagon damaged in the attacks, and the side of the building is illuminated at night with blue lights. After the attacks, plans were developed for an outdoor memorial, with construction underway in The park opened to the public on September 11,

Chapter 8 : Pentagon report accuses China of trying to undermine US defense industry - CNNPolitics

The Pentagon, in Arlington County, Virginia, across the Potomac River from Washington, D.C., is the headquarters of the United States Department of Defense. A symbol of the U.S. military, the phrase The Pentagon is often used as a metonym for the Department of Defense and its leadership.

Numerous senior military and government officials not only in the U. At the time, I had worked as a language interpreter with top U. And like many others, I question why the Pentagon to this day has refused to release any surveillance tapes of the Pentagon strike that are conclusive as to what hit the Pentagon. I find it very hard to believe that none exist on this highly monitored fortress. Thanks to excellent websites like WantToKnow. And many who work in the field of intelligence, which once depended heavily on carefully fostered personal connections for gathering secret information, have made good use of the Internet to discover how they were being used not for the good of the public, but rather for the benefit of a wealthy elite who pull the strings of global politics behind the scenes. In personal communications, Dr. So the work of WantToKnow. Our website has now received over 7. Yet the good news is that the corporate-owned major media is rapidly losing credibility as the public increasingly looks for quality, unfiltered information on the Internet. Some like myself also open to inner spiritual guidance as they put the pieces of the puzzle together. Those factions which are most focused on dominating and even destroying our world are gradually being shut down and marginalized. A few of their members are even waking up and now beginning to work for the good of all humanity. In addition, I have received information that there are growing numbers of military and government intelligence officers around the world who are working to stop the craziness and expose the many manipulations being carried out by the global power elite. A few years ago, I learned about an intelligence organization called "The Library" which plays an active role in blocking key destructive plans of the power elite. Working quietly behind the scenes, this unusual group of intelligence professionals has both leaked key documents at crucial moments, and carried out small, but effective activities which prevented major destructive plans of the power-hungry factions of the global elite from being implemented. For more fascinating information on this, [click here](#). In the old paradigm, global politics operated based largely on hierarchical structures which placed a small number of chosen people and groups at the top of the hierarchy. For many centuries, the common folk willingly surrendered their power to those above them in the political and military hierarchies in exchange for safety and protection. Yet many individuals and groups in the top rungs of this global hierarchy secretly used the power given them for personal profit and gain. For thousands of years, selfish factions of the power elite have controlled the general population by promoting fear, secrecy, and polarization, and through distracting people from their deeper purpose in life. This is what has led to much of the craziness in the world even today. For more on this, [click here](#). We are increasingly less dependent on hierarchical leadership from the top, and are trusting more our own inner resources as we work cooperatively with many others who are now dedicated to ushering in this new paradigm. We are embracing the understanding that each of us has unlimited power within, and that we are all interconnected. And the Internet is making it easier for us to connect and even to come together in person to promote ever more love and understanding in our world. I suspect that as we give birth to the new paradigm, the world will experience birth pains, particularly as the old hierarchical power structures of this world begin to crumble. How much pain is experienced will likely be a matter of how fast and how hard this collapse happens. This would more easily allow the grass roots, new paradigm networks rapidly growing around the world to catch the pieces as the old hierarchy falls apart and the new paradigm takes its place. Once an ever increasing number of people see the need for this change, I suspect we will all join in co-creating a new way of life that is much healthier and more cooperative than ever before. The reverberations of this incredible act of destruction faced us all with death in a very real way that caused many millions of people to deeply re-evaluate their lives and look at what really matters in our world. As a result, many chose to take a new direction much more focused on serving the greater good of all humanity and making a difference in the world. It was the kick in the butt that many of us needed to get our lives back on track to focus on our own personal growth and on ushering in a new paradigm for our world. I acknowledge

that I am an eternal optimist. I am willing to look deep into the shadows both within myself and out in the world, knowing that only by facing my fears and the fears of our world can I transform them. I have a number of friends and colleagues who feel that we are in for some major doom and gloom, but what I know is that each of us creates our reality much more than we might think. Our beliefs have a huge impact on our experience of life. When we choose to see even great challenges as opportunities for growth, life becomes an exciting adventure. And when we take full responsibility for how we interpret everything that happens to us, we become fully engaged in life and can more actively join in co-creating a better world for us all. Thank you for your interest in this magnificent work to transform our world. I know that every one of us who makes even a small effort to build a better world makes a difference. And the more we support each other in being the change we want to see, the more beautiful and glorious this world we live in becomes. Thank you so much for playing your part, and I wish you a most beautiful journey through these exciting times. With warmest wishes for a rich and fulfilling life, Fred Burks Note: If you want some great tools to help you in being the change and transforming our world, I highly recommend exploring one of our free online courses, which you can find at this link. What you can do: To contact those close to you, click here. Urge them to call for the release of classified documents and videos and to press for a new, impartial investigation. Explore inspiring ideas on building a brighter future by reading this short essay. Spread this news to your friends and colleagues, and recommend this article on key news websites so that we can fill the role at which the major media is sadly failing. Together, we can make a difference. We need your support. Please help our work to grow and thrive by donating at this link. See the exceptional collection of resources in our Inspiration Center Your tax-deductible donations, however large or small, help greatly to support this important work. To make a donation by credit card, check, or money order: Please donate here to support this vital work. Subscribe here to our free email list for two information-packed emails per week.

Chapter 9 : Mathematics of Perspective Drawing

Department of Defense Press Briefing on Better Buying Power in the Pentagon Briefing Room. Deputy Secretary of Defense Bob Work; Undersecretary of Defense for Acquisition, Technology and Logistics Frank Kendall III.

The distinctive shape of the Pentagon was based on plans to construct it at Arlington Farms, where existing roads defined the parcel that could be developed Source: On Thursday, July 17, 1941, a key member of the US Congress signaled that he could support construction of a massive, single building to consolidate War Department personnel who were scattered among office buildings in Washington, DC. The War Department had already received assurances that the House Appropriations Committee would fund new temporary office buildings, and had relaxed its requirement that they be located in Washington, DC. Somervell, told his architects that they had three days to design a structure with 4,000,000 square feet that could provide space for 40,000 workers and with parking to accommodate 10,000 cars. To minimize use of steel and elevators, the structure would be only four stories tall. Workers would use ramps and stairs to get up and down. In early 1941, Secretary of War Henry Stimson had planned to move the Army into new headquarters being completed on 21st Street. Once he realized that building was too small for the expected expansion of workers, he started the search for a replacement site. There was limited space for new buildings in the District of Columbia, and thousands of new employees there would exacerbate existing traffic congestion. Proposed sites in Maryland were too far away. Stimson decided that the headquarters of the War Department would move out of the District of Columbia, to the Virginia side of the Potomac River, for the first time in the history of the United States. Construction of a new office building would reduce the need to build new "temporary" offices and rent space in the District of Columbia. One small advantage of building a new office in Virginia was that the War Department would not have to get formal approval of architectural designs and building materials from other Federal agencies with responsibilities inside the District, such as the Commission on Fine Arts. The architects completed initial design concepts by the following Monday after "a very busy weekend. Construction began on September 11, 1941, but only after President Franklin D. Roosevelt resolved a fight over exactly where to build the new War Department headquarters. The Army planned to build a new depot for the Quartermasters Corps there. Locating a new War Department headquarters at the site would force a search for a new depot location, but in mid 1941 that was a minor problem compared to the other challenges faced by Secretary of War Henry L. After being told the site of the former Washington-Hoover Airport was in the floodplain of the Potomac River, Somervell decided to build one mile further north on a portion of the old Arlington Experimental Farm. The Arlington Experimental Farm site was slightly higher in elevation. That reduced the flood risk, but would make the building more visible from Washington and from the historic Arlington-Custis Mansion. To minimize visual impacts, the architects were told to plan a three-story rather than a four-story building. The First Fifty Years p. Custis, grandson of Martha Washington, built Arlington House on the ridge overlooking the Potomac River and his farmland on the shoreline. His daughter Mary Custis married Robert E. Lee in Arlington House in 1800, and she inherited the property in 1817. The Federal government built Fort Whipple on the same ridge as the mansion house, then confiscated the property after claiming Mrs. Lee had not paid taxes. In 1818, the Quartermaster General ordered that soldiers be buried next to the mansion house and started Arlington Memorial Cemetery. That guaranteed the Lee family would never live there again. Federal ownership of the estate was confirmed in 1846, when a lawsuit filed by the heirs of Mary Custis Lee was completed and they were paid for the land. In 1862, the farm relocated to Beltsville, Maryland. The old farm site was undeveloped when Brigadier General Somervell made it his second choice for the new War Department headquarters. The Pennsylvania Railroad, using the line of the former Washington, Alexandria, and Mount Vernon Electric Railway, and the planned road from Memorial Bridge also constrained the planning. Edwin Bergstrom and David J. Witmer, July 31, 1941, The new site for the War Department headquarters immediately generated controversy. Businesses who relied upon the economic benefits from Federal office buildings inside the District were opposed to decentralization anywhere into Virginia, whether at the Washington-Hoover Airport or the Arlington Experimental Farm. The massive size of the structure was also

questioned. A structure designed to house up to 40,000 people would be built in Arlington County, which had a population of 57,000 people. It would need its own sewage treatment plant. To win support in the US Congress, General Somervell suggested the building could be converted into an archive to store records after the war emergency ended. As proposed, even a three-story building at the Arlington Experimental Farm site would have an impact on the view from the Mall. Roosevelt had pushed through the Lend-Lease Bill in March and declared a state of unlimited national emergency in May, and German armies were advancing rapidly into Russia that summer. The United States was becoming the "arsenal of democracy," but it was not at war. The December 7 attack at Pearl Harbor was still over three months in the future. The decision process about where to build in Virginia lasted less than two months. Roosevelt settled the debate on August 26. The location was moved back to the original site at the Washington-Hoover Airport, despite the floodplain concerns. Roosevelt responded to aesthetic objections to the Arlington Experimental Farm site. That was, in part, because he felt guilty for desecrating the National Mall with "temporary" buildings erected in 1941. He said on August 26, "The building in Virginia, designed from the beginning to be a permanent and not a temporary structure, would be converted into an archive to store records. Floor strength was increased to support weight of pounds per square foot, sufficient to store heavy file cabinets filled with paper. When choosing the site for the War Department headquarters, the top politician in the United States chose to over-rule objections from his military officials. He required that the design be submitted to the Commission on Fine Arts for its review, even though the building was not in the District of Columbia. The shape was distinctive, but the exterior was consistent with the Stripped Classicism style used at the time. In the District of Columbia, that same style was used for the Federal Reserve and Department of the Interior buildings, as well as the War Department building on 21st Street that ended up becoming part of the Department of State Headquarters. President Roosevelt was blunt when Somervell continued to express his preference for the Arlington Experimental Farm site as they were making a site visit to the two locations on August 29, 1941, telling him curtly: Somervell himself was politically astute. He recognized that Rep. Woodrum, who chaired the subcommittee of the House Appropriations Committee that would approve the funding for military construction, represented the Roanoke, Virginia area. Somervell bumped two New York firms and ensured that two Richmond firms were given contracts for construction of the new headquarters.