SMALL WARS JOURNAL

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Penny Packets Revisited:

How the USAF Should Adapt to 21st Century Irregular Warfare

by Ben Zweibelson

If your organization is such that your air power is divided up into separate packets and there is no overall unity of command at the top, once again you will lose your powers of concentration. Air power in penny packets is worse than useless. It fritters away and achieves nothing. The old fable of the bundle of faggots compared with the individual stick is abundantly true of air power. Its strength lies in unity.

-Air Marshall Sir Arthur W. Tedder[1]

The aforementioned quote galvanized the United States Air Force institution in terms of doctrine, organization, procurement, and joint operations from 1947 forward. Centralized control, decentralized execution (C2DE) became the rallying call for Air Force independence, continued relevance, and self-determination through present day military conflicts. According to the Air Force, ground commanders could not effectively control the dreadful 'penny packets' of fixed wing platforms in a decentralized command and control role based on WWII experiences. However, current and future conflict for the United States will assuredly fall into the irregular warfare realm for the near future. C2DE functions best in high-intensity conflicts against conventional opponents, and functions inefficiently in irregular warfare environments at great cost. Yet the Air Force continues to demand high intensity-centric platforms perform irregular warfare roles while enslaved to the C2DE dogma. They rationalize this by echoing an obsolete and self-serving argument about WWII era 'penny packets.'

This white paper will argue that C2DE in irregular warfare conflicts should be replaced with *decentralized* control, decentralized execution (DCDE) in a 'penny packets revisited' format utilizing lessons drawn from the French military in Algeria. This is a three part argument and requires the Air Force to adapt turbo-prop platforms in lieu of their preferred F-22s/F-16s and decentralize them at locally positioned forward operating bases within each irregular area of operations requiring ground assets. Lastly, the Combined/Joint Force Air Component Commander (C/JFACC), Joint Air Tasking Cycle, Joint Air and Space Operations Plan, Air Operations Directive, and Master Air Attack Plan all need significant dismantlement and refinement in irregular conflict environments for this 'penny packets revisited' to work. As stated earlier, from platforms to doctrine to the entire C/JFACC planning and executing process, the Air Force enslaved itself in entirety to C2DE regardless of whether a conflict is conventional high intensity or an irregular low intensity environment. Neither ground nor sea forces take such an obtuse and inflexible approach to the full spectrum of combat; the Air Force should not either.

[1] Tedder, Sir Arthur W. "Air, Land, and Sea Warfare." Cited by Hinote, Clint in *Centralized Control and Decentralized Execution; A Catchphrase in Crisis?* Air Force Research Institute Papers 2009-1. Pg. 9.

Figure 1: USAF Conflict Analysis under C2DE methodology 1945-2010

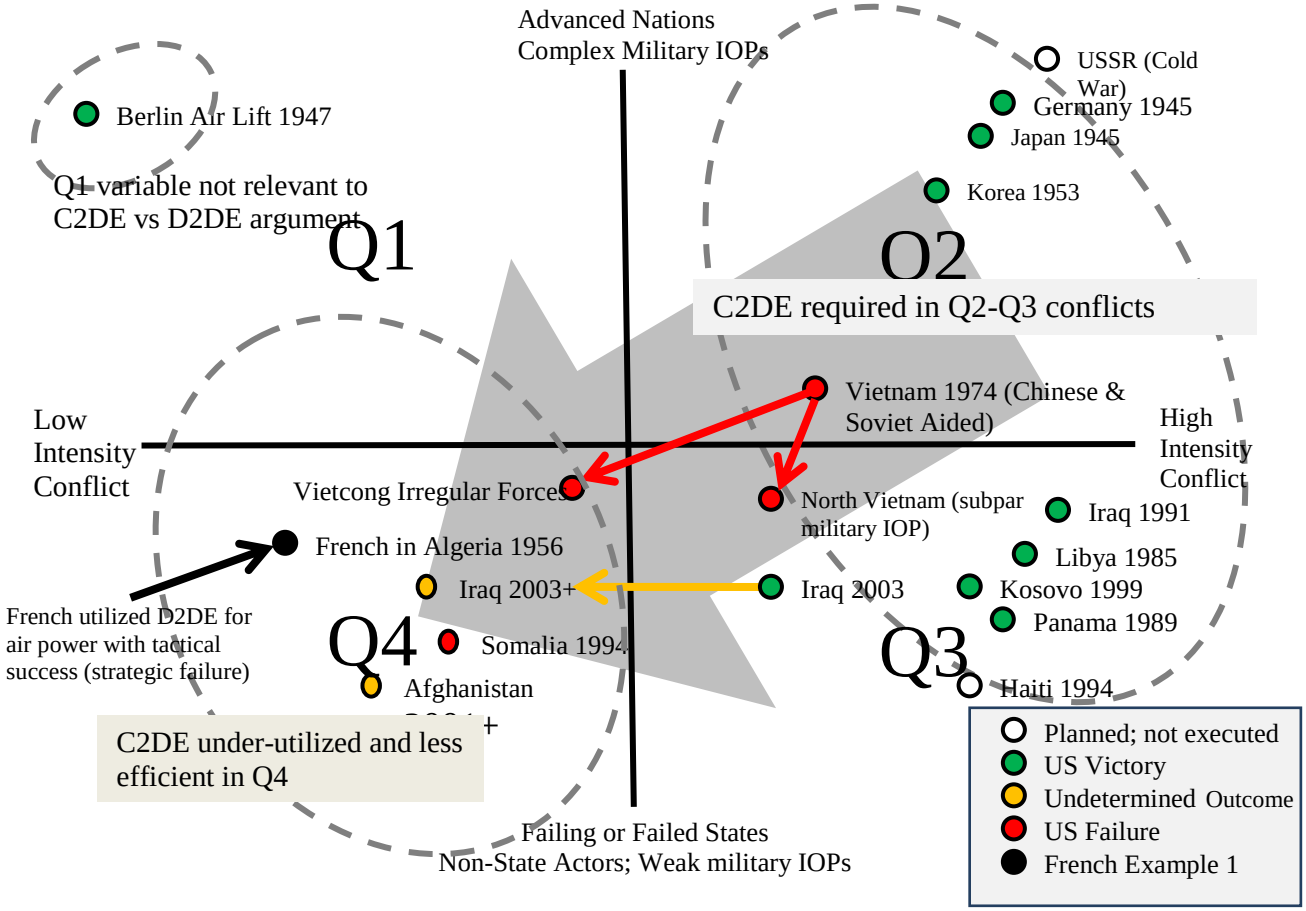


Figure 1 uses a four-quadrant model to illustrate major American conflicts since 1945 involving air power. Quadrant 2 and 3 reflect the majority of conventional conflicts where American advanced technology and a C2DE approach generally led to air-power success if not outright victory. The Air Force weds itself exclusively to future Q2-Q3 conflict preparation with expensive projects such as the F-22 and J-35 platforms. These advanced jet fighters are capable of operating in the most contested air environments to defeat first-world air power opponents; they do this from large and distant air bases while adhering to the C2DE mantra. As figure 1 demonstrates, conflict is decidedly migrating in favor of Q4 conflicts due to American opponents taking notice of IW successes and stalemates. Of note, the French in Algeria (1955-61) used T-6 trainers and decentralized their air command system "into three tactical air commands (GATACs)…the corps/GATACs and divisional zones controlled army and air forces through a joint operation center…and the air units operated normally under overall command of the army corps area commander."[2] Although the French suffered a political and strategic defeat in Algeria for well-deserved reasons, their military forces excelled using this 'penny packet' formula that the U.S. Air Force continues to decry. Figure 1 shows that Q4 contains more American defeats,

[2] Corum, James S. and Johnson, Wray R. *Airpower in Small Wars; Fighting Insurgents and Terrorists.* University Press of Kansas, 2003. Pg. 169.

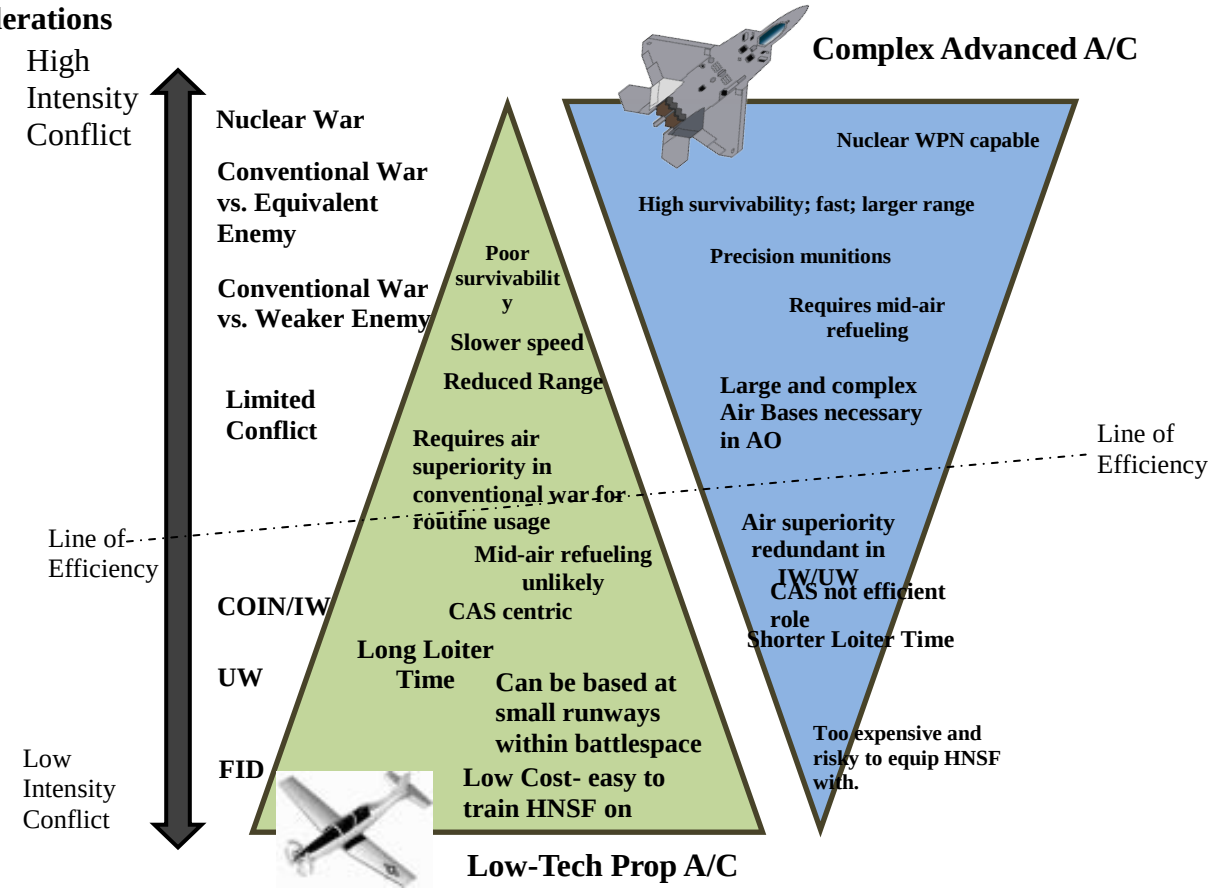
stalemates, and undetermined military outcomes than other quadrants; this supports two key points for this white paper. The Air Force is making an increasingly irrelevant argument against DCDE in irregular conflicts; by forcing its organization to continue current operations in Iraq and Afghanistan enslaved to the C2DE methodology the Air Force makes air power inefficient, costly, and poorly integrated into the overall counterinsurgency strategy for ground forces in both theaters.

Aviation platforms define the objectives, desired capabilities, and mission expectations for the Air Force. While dreamers in Mitchell's era envisioned aircraft capable of doing all roles effectively, the reality is that an aircraft built for one end of the conflict spectrum cannot function as effectively at the opposite end. The F-22 platform is, aside from the American space shuttle, the most advanced piece of aviation designed by humans. They built it to dominate opponents at the high intensity end of the conflict spectrum so effectively that it has no equal. Yet this amazing hardware is at a distinct disadvantage at the low intensity end of the conflict spectrum by nature of its design. In contrast, the French took the T-6 to combat in Algeria in a counterinsurgency environment for the T-6's diametrically opposing qualities. "The T-6 was slow (top speed barely over 200 km) but cheap…sturdy and easy to maintain. It could operate from small tactical landing strips (something jet fighter-bombers could not do) and loiter far longer than a jet. Its slow speed meant that pilot and observer could fly low and observe the terrain closely...it was the primary aircraft of the war…"[3] The T-6 attributes match the air power requirements of irregular conflicts over advanced jet airframes as figure 2 illustrates. With respect to the illustration's two triangles, the F-22's[4] strengths in the upper high intensity conflict band of the full spectrum of conflict drop off in the low intensity band. Figure 2 features a *line of efficiency* that crosses both triangles to indicate where one airframe presents diminishing returns within a respective band of conflict. The dilemma is not as simple as recommending that the Air Force switch from complex jet air craft in low intensity environments to prop air craft; platform preference is only the first step in this three-step argument against Air Force's C2DE fixation across the full spectrum of conflict.

[3] Corum,. Pg. 167.

[4] I use F-22 but this includes all USAF fixed wing advanced jet airframes- the F-16, F-15, F-35, etc. These jet A/C dominate the right upper triangle in the high intensity brand of the conflict spectrum. They don't translate readily into the low intensity however.

Figure 2: Air Power Variables in HIC versus LIC for platform considerations



LTC Hinote discussed in his US Air Force paper the operational-tactical disconnect where "Airmen believe in centralized planning at the operational level, and ground commanders believe in decentralized planning at the tactical level, especially in irregular warfare operations." [5] This indeed is a significant problem when the ground staff within an area of operation plans an operation without Air Force representation present due to the Air Force platform reliance and C2DE inflexibility. Fighters in Iraq and Afghanistan reside in distant robust air bases while the Joint Air and Space Operations Center is thousands of miles from where ground forces are waging war. In Algeria, the French used *decentralized* control and localized their air bases into the ground force locations. Consider for a moment if Air Force pilots of prop-driven craft were decentralized into penny packets into Iraq and Afghanistan. When contrasted with how the Air Force currently employs pilots and platforms in irregular warfare conflicts, figure 3 demonstrates significant differences between the two methods. C2DE in the irregular warfare environment puts pilots, planners, and the supported ground forces at disadvantages. Yet the Air Force resists any modifications to the command and control structuring due to, as Hinote phrased it, "for fear that we will violate our fundamental beliefs. The perverse result is that we are violating the

[5] Hinote, Clint Lt Col. *Centralized Control and Decentralized Execution; A Catchphrase in Crisis?* Air Force Research Institute Papers 2009-1. Pg. 35

experience of the airmen who came before us, as they valued the flexibility of airpower above all else." [6]

Figure 3: Centralized Versus Decentralized Control in COIN environments

Decentralized Control Prop A/C in COIN, FID, UW, IW : *Penny Packets for Ground CDR*

Centralized Control Prop A/C in COIN, FID, UW, IW (OIF, OEF today) : *Status Quo for USAF today*

1. Smaller AO means pilot knows his battlespace.
2. Longer Loiter Time for Prop A/C.
3. Likely has right ordinance for mission.
4. Planned CAS instead of XCAS.
5. Part of the plan from cradle to grave.
6. Pilot has all ground graphics, control measures, and EXCHECK list.
7. Personal relationship with ground forces.
8. Home is the smaller airfield at the FOB in the AO.
9. Lands locally to refuel; no mid-air needed.
10. Air QRF is rapid, local, and precise.
11. HNSF air force can easily adapt to low-cost and less complex prop A/C for eventual FID transition of assets and responsibility.
12. No ATO cycle- A/C operate as per ground CDR's guidance and planning.

1. OIF/OEF battlespace size means a pilot is at best vaguely familiar with terrain.
2. C2 is far from ground forces; potentially thousands of miles away.
3. Shorter loiter time; mid-air refueling requirements.
4. May not have right ordinance for required effect.
5. C2DE means randomness of CAS response due to time, resources, and means.
6. Not part of the ground planning process other than the 72hr ATO cycle.
7. Unlikely to have any ground graphics, control measures, or EXCHECK.
8. No personal relationship with ground forces.
9. Home is a large and complex airfield far from AO.
10. C2DE makes an Air QRF redundant; however it imposes #3, 4, 7 above when responding.
11. ATO drives all Air Power from lethal to non-lethal, lift, and logistical requirements.

Figure 3 illustrates what provided the French in Algeria irregular warfare advantages in air power over how the Air Force continues to operate in Iraq and Afghanistan. From a pilot comparison, the 'penny packet' pilot in his turbo-prop aircraft can loiter longer, knows his area of operation and is more likely to carry the necessary ordinance. He was part of the plan and possesses all ground graphics and the critical execution checklist that details what ground forces are doing in a particular named operation. That pilot has a personal relationship with the ground forces, and is no longer a slave to the ATO cycle. In essence, modern rotary wing aviation (U.S. Army helicopter) pilots that support ground forces enjoy these benefits. Instead, today's Air Force pilot instead continue to be vaguely familiar with the terrain given the size of Iraq, Afghanistan, and West African theaters, and has a shorter loiter time. He may not have the right ordinance, does not have the graphics or execution checklists and likely has no relationship with ground forces. The pilot was not part of the planning process aside from the 72hr Air Tasking Order cycle, and he resides at a distant and costly air base in the region. Figure 3 makes critical irregular warfare delineation between the two approaches; essentially all successful irregular

[6] Hinote, Pg. 55

warfare campaigns will transition to a foreign internal defense (FID)-based transition of air assets to the host nation's military and security forces in the later phases of a military campaign. Lt Col Pinter also identifies this as a positive for eventual FID-based transitions. "[Larger] numbers of lower-cost [irregular warfare] capable aircraft operating from smaller unprepared airstrips in the [area of operation] will help…to ensure future and current [major combat operations] capability. Furthermore, less wealthy nations, including Iraq and Afghanistan could also procure light fighters to support [irregular warfare] operations within their own region."[7] Inevitably, the Air Force has to stand up a host nation's air force and cannot generally do this with F-16s or F-22s. Ground forces follow the same military transition team approach in transitioning out ground forces while equipping and training host national ground forces; shouldn't the Air Force?

The JFACC configuration reflects the fundamental values of C2DE in irregular warfare. Referring back to the figure 1 chart with Q1-Q4 quadrants, the Air Force had the convenience in nearly all Q2 and Q3 conventional high-intensity conflicts to focus on one contiguous geographic area for the duration of the conflict.[8] This supports a C2DE methodology in high intensity environments and pairs well with the capabilities and limitations of high-performance aircraft. Yet irregular warfare conflicts, especially a *global* war on terror, are by their nature generally non-contiguous and potentially on opposite sides of the world. For the very reasons C2DE and a centrally located JFACC work in high intensity conflicts they serve as a disadvantage in lower intensity irregular environments. The JFACC is thousands of miles from ground component operational staffs in both Iraq and Afghanistan (not including South Pacific and African operations). Distance precludes most Air Force planners from having any real dialogue with ground planners other than the status quo 72-hour ATO cycle of today. Here, virtually everything the Air Force provides for ground forces is predictably dedicated to close air support, intelligence, surveillance, and reconnaissance (ISR), and lift. Whereas the ATO in a high intensity environment could differ radically from day to day, the ATO for today in Afghanistan probably is identical to the ATO from 30 days ago in terms of allocations, missions, ratios, munitions, and ISR requirements. C2DE is a static and inefficient model in modern irregular warfare due to the decentralization demands that the Air Force refuses to acknowledge.

The Joint Air Tasking Cycle process reflects that proverbial C2DE-infused blood flowing through the veins of today's 'post-Cold War' Air Force. Referring back to the figure 1 quadrant chart, the JATC process works exceptionally well in Q2/Q3 conflicts with the current platform capabilities and limitations employed by the Air Force. In a high intensity conflict against conventional opponents (to include nuclear considerations), the JATC process facilitates the various air power applications available to the JFACC. The 'Dora Farms' operation at the onset of *Operation Iraqi Freedom* was a classic decapitation mission aimed at killing Saddam Hussein and severing the head of the conventional military leadership. It occurred in tandem with suppression of enemy air defenses (SEAD), counter-Scud/weapons of mass destruction (WMD) operations, close air support, ISR, strategic strikes, and interdiction missions. Virtually

[7] Pinter, William E. Lt Col, USAF. *Air-ground Integration in the 21st Century: Improving Air Force Combat Capabilities and Theater Command and Control For Major Combat Operations and Irregular Warfare.* Air War College; 12 February 2009. Pg. 16.

[8] Since this is an eight page paper, I won't split hairs on how the Air Force separated Atlantic and Pacific air theaters; the overall point still remains valid. The Air Force in HIC gets one geographic theater to focus on. In IW today, they do not get that, and if the global war on terror (or whatever we are calling it today) continues to be *global*, the COMAFFOR/JFACC will likely be stretched around the globe sending assets to multiple non-contiguous AOs.

all aspects of modern air power were present in the first 30 days of JAOP activity and subsequent ATOs for the opening phases of Operation Iraqi Freedom. Yet once catastrophic success occurred and the conventional opposition melted into a brooding insurgency, the once dynamic and adaptable JAOP transitioned into what it largely is today; a static and abbreviated format that stubbornly holds to core Air Force tenets of C2DE despite the limitations of irregular warfare for air power.

Air Force pioneer General Pete Quesada stated that "of all the lessons we learned about tactical air operations, perhaps the most important is that the air commander, his group, and squadron commanders must have a sincere desire to become part of the ground team." [9] Yet the Air Force is unable to break from the C2DE yoke around its neck and consider the many obvious benefits of decentralized control in irregular warfare environments. *Operation Together Forward* in OIF provides a telling example of the inflexibility of U.S. Air Force as an institution. Hinote used this operation to highlight how the JFACC was originally willing to allocate an entire squadron of fighters to a division in Baghdad for the entire duration of the operation. This was a modified version of the dreaded 'penny packets' and was eventually cancelled by Multi-National Corps-Iraq despite positive feedback from the AOC and components involved. [10] In clear contrast, the French GATACs in Algeria used the latest communications equipment available in the 1950s to link their air and ground assets in tandem. "The air forces, thus closely linked with the conception and execution of the missions required by this [Challe] plan, had to follow the rhythm imposed, just as the army did." [11] Therefore the French in Algeria over 55 years ago faced a very similar irregular warfare environment that the Air Force faces today in the 21st century. Yet the French utilized low-tech older aircraft in a DCDE structure which capitalized on the 'penny packet' methodology that the Air Force continues to disregard as inferior to C2DE. Perhaps one reason why *Operation Together Forward* was scrapped shortly after its successful start was due to the Air Force self-serving fear that it could prove wildly successful. Such success would throw into question the entire JAOP and C2DE in current and future complex irregular warfare environments.

In Iraq and Afghanistan today, the 72hr ATO process must seem like *Groundhog Day* to the Airmen involved. With a complete lack of strategic targets or any conventional enemy organization present, the strategy division has no choice but mirror campaign plan as developed by the supported ground forces. Whereas ground forces in irregular warfare face perhaps an even wider assortment of mission requirements and asymmetrical objectives, air power is largely reduced to ISR, close air support, and lift. Today in both Afghanistan and Iraq, the steps from target development through weaponeering and allocation are now abbreviated. The ATO production and dissemination now realistically occurs at a shorter 48hr window instead of the high intensity standard 72hr process. If anything, the assessment phase is increased in a irregular warfare environment in part due to collateral damage concerns, consequence management, and the illusive nature of insurgents. This author recalls a close air support mission involving a maverick strike on a fleeing enemy van in August, 2007 south of Baghdad. Within 36 hours, intelligence picked up phone calls to known family members of a mid-range insurgent leader that indicated he was killed in that incident. Whereas in high intensity environments where a missile

[9] Hinote, Pg. 59
[10] Hinote, Pg. 37
[11] Christienne, Charles, and Lissarague, Pierre. (translated by Francis Kianka); *A History of French Military Aviation.* The Smithsonian Institution Press, Washington D.C. 1986. Pg. 465.

strike on a enemy tank would essentially become a statistic for record, in low intensity conditions it takes far longer to determine what, if any effects air power had on the enemy.

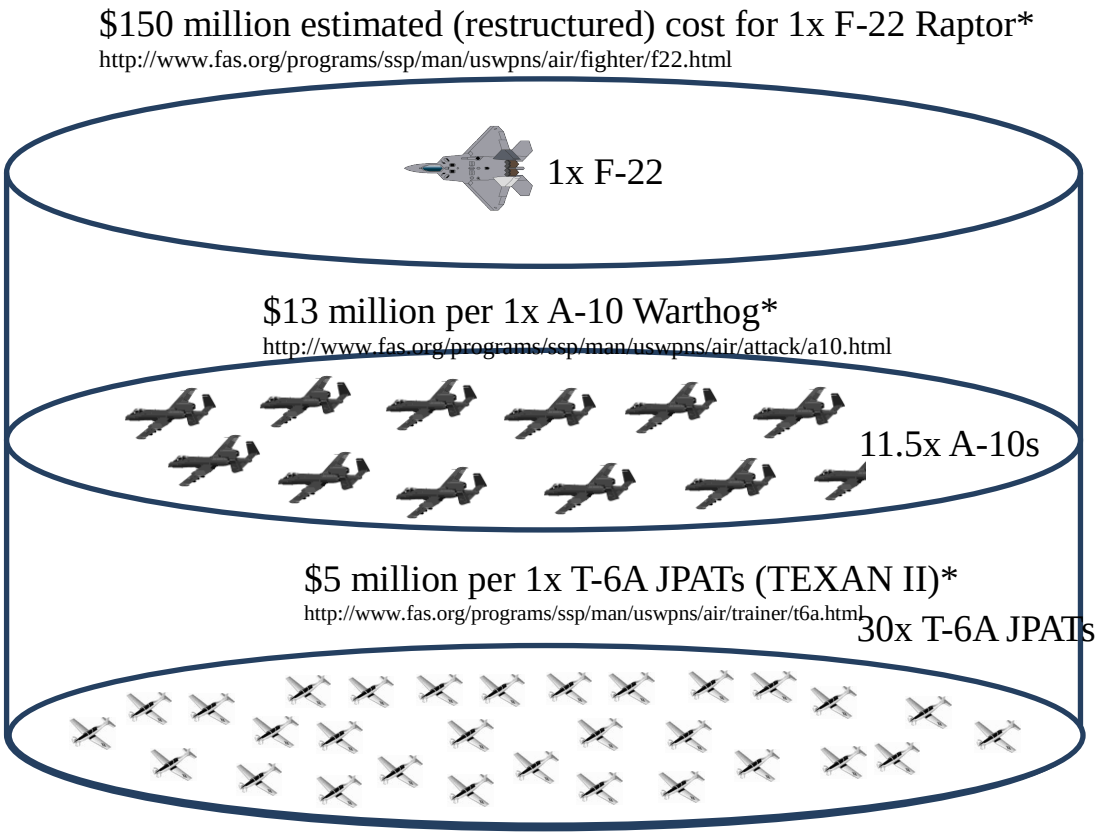
Another significant concern with C2DE, the dual-hatted COMAFFOR/JFACC, and the joint air tasking cycle deals with air apportionment. With IW and multiple non-contiguous conflict AOs to support, how does the JFACC really know which priorities are higher or lower than others in other LICs supported if the requesting ground forces designate them the same? Hinote makes a similar point by observing within the MAGTF/JFACC division of airpower support requests. "There is no way of knowing if the lowest filled priority in Anbar is of higher priority than the highest unfilled priority in the rest of Iraq." [12] This makes for a supporting argument for DCDE where penny packets of aircraft are controlled and prioritized by that ground commander for his area of operations. That commander knows in an irregular warfare environment how best to use all of his assets, to include air.

The master air attack plan (MAAP) assigns available weapons delivery platforms to targets for the Air Force. The MAAP, like everything else in Air Force doctrine, platforms, and processes, is intrinsically tied to C2DE despite its shortcomings in irregular warfare. Whereas in high intensity conflict the MAAP functions efficiently by allocating the JFACC's air apportionment into sorties, munitions, refueling, and close air support considerations, in low intensity conflicts such as counterinsurgencies, the MAAP is at times a disservice to efficiency and flexibility. With virtually all air support requests categorized as ISR, close air support, or lift in irregular warfare conflicts, the MAAP is a 'flexible guess' in terms of what munitions, fuses, and platforms will be airborne to support ground forces in the event of violent contact with the enemy. This author experienced the frustration of aircraft going 'bingo' on fuel or arriving on station with ordinance that was planned into the MAAP with good intentions (based on previous utilization) but for the current circumstances were un-usable against that enemy. This will continue to plaque future MAAPs and ATOs as long as the Air Force remains yoked to the C2DE process.

Referring back to the French in Algeria for a moment, the French ground forces likely did not face these same problems for several considerations. First, the GATAC was co-located with the ground Corps staff for planning purposes. An unneeded munition for that particular day would not be loaded onto a plane. Secondly, the French ground forces in the 1950s enjoyed T-6 formations of what modern Infantry Commanders call the Quick Reaction Force (QRF). "French troops on the ground knew that they could rely on rapid air support, and the [Front de Liberation Nationale] were hampered in any attempt to assemble a large force by the knowledge that French aerial reconnaissance was ever present."[13] Ultimately, all of the inefficiencies and costs associated with the JFACC, JATC, JAOC and associated ATO products all stem from the Air Force's inflexibility over the platforms it purchases and the C2DE doctrine it preaches in all manners of conflict.

[12] Hinote, Pg. 51.
[13] Corum,. Pg. 170.

Figure 4: Cost to Number Ratios in Favor of Penny Packets



In conclusion, despite the limitations associated with employing high intensity-centric platforms in low intensity environments with a C2DE methodology, the Air Force remains unwilling to adapt. Deviation to the core C2DE tenet would radically alter the platform requirements (T-6 instead of F-22), logistical footprint (dirt runways on local forward operating bases instead of distant regional air bases), and the Air Force would vex over ground forces controlling 'penny packets' as the entire JFACC, JAOC, and ATO cycle would face reduction and possible irrelevance in irregular warfare environments concerning lethal operations. Figure 4 offers one consideration why the Air Force would oppose any meddling with airframe selections. One F-22 in estimated purchase costs alone would equal 11.5 A-10 Warthogs, or 30x T-6 Texan IIs (2x squadrons worth).

This white paper does not attempt to determine the support footprints for any of these aircraft except for the presumption that the F-22 and similar advanced airframes would require significantly higher support costs for all aspects of maintenance, equipping, arming, training, and sustaining than the lower technology prop airframes. The F-22 and airframes like it are not only well suited to HIC environments, but by their limitations are enslaved to the C2DE methodology, large air bases supporting multiple non-contiguous operation environments, and are essential to the Air Force's quest for continued relevance in future military employment considerations. Ground forces cannot use penny packets of F-22s in an irregular warfare environment, nor if they did would those pilots be tied into the planning process like French T-6 pilots in Algeria.

The current ATO cycle is truncated in the irregular warfare environment, and while it does function, it remains less efficient and responsive than if ground forces had 'penny packets' of T-6 equivalent airframes that were based in their respective areas of operation. While those actions would blend seamlessly into current counterinsurgency operations and would transition host nation air forces into their own T-6 capable security forces for subsequent independent operations, this would place the JAOC, JFACC, the ATO, and the projected USAF F-35 procurement budget into question. For the Air Force, tomorrow's fight has to remain a high intensity-centric conventional opponent in order to rationalize the continued practice of pushing jet fighters into irregular warfare supporting roles under the high intensity-centric C2DE methodology with established JFACC and Joint Air Operation Center (JAOC) organizational processes. While Quesada preached for Airmen to sincerely become part of the ground team, the Air Force will only do that from a distance, at high speed, flying in accordance with an ATO they wrote 48hrs ago a thousand miles from the battle space.

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