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# Operational Art in the New Century

MONTGOMERY C. MEIGS

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*This article is adapted from remarks made by General Montgomery C. Meigs as the 2000 Kermit Roosevelt Lecturer in the United Kingdom. The Kermit Roosevelt lecture series was established by Congress in 1945 to foster a better understanding and closer relationship between the US and British military forces. -- Editor*

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In the sense of the old Chinese proverb, we find ourselves in "interesting times" indeed--interesting because we are experiencing a shift in the nature of the art of operations. As we adapt our understanding of the art of operations, we are also challenged to hold onto the relevant aspects of classic theory of operational art.

The realities of the information age are changing the operational environment in fundamental ways. The fungibility of information brought about by broad bandwidth communications, the exponential improvement of sensors, and the rapidly increasing precision of guidance systems demand new rules for how we soldiers must do our business, that is, for our art of operations. The availability to our adversaries of these off-the-shelf technologies, the vulnerability of internetted command and control to exploitation, and the restrictions upon our action imposed by laws and policies intended to ensure access for all complicate our challenge.

This paradigm shift goes beyond simply the new possibilities of information technology. New strategic realities have developed. If recent history is any prologue, we will see more incremental commitment of forces, always in joint formations, and usually in combined or multinational ones. We probably will find ourselves having to wrest the initiative away from an opponent who fights on his own turf and who has us outnumbered, at least initially. Yet we will have a requirement to apply overwhelming force against the enemy's operational center of gravity in order to win quickly at least cost. We will be operating on a very complex battlefield that combines the challenges of difficult and unfamiliar terrain, terrorists and paramilitaries, and refugees and unfriendly civilian organizations (some possibly having links to internationally networked, organized crime). The new information environment makes carrying operations to successful conclusions even more difficult. The increasing complexity of the art of operations will place even greater stress on the abilities of the commander.

The art of operations concerns the conduct of campaigns, the actions of corps to combined joint task forces. Campaigns involve the employment of military forces and capabilities in a series of orchestrated, timely movements linking tactical means to the achievement of strategic ends. The art of operations involves execution, coordination, and the collective effort of organizations.

Operational art draws from the mind and personality of the commander, how he sees the battle and makes his decisions. It requires the commander to visualize end-states in an almost intuitive way, to define the causal means to effect them, and to decide on actions to accomplish those ends. Success requires of the commander that he anticipate and recognize opportunity and that he have the instinct and intellect to assess the risks of doing so and the competence to minimize those risks. It requires a knowledge of human nature and a sense for where to place oneself on the battlefield. Operational art entails a feel for the troops, a human touch, a psychological connection between leader and led.

No one can be sure where the information age will take us, but we need not go there blindly. Insights gleaned through the study of military history and literature can help us to understand the problems we will face and how we can shape the process of change. With that in mind, let's examine two questions:

- What is immutable in operational art and must be preserved?

- What must we do to open the way for a new paradigm for the art of operations?

What we preserve will affect how we change and whether we do so successfully. What we set as institutional enablers and buffers will smooth out the process.

First, we are members of an old and noble profession. Out of the experiences of the 19th century in both Britain and North America, the military became the full-time servants of the commonweal. The growth of democratic institutions subordinated loyalties of the aristocratic warrior to the interests of the state, and the authority of military commanders became dependent upon collective will as expressed by elected officials. From this we derive our sense of selfless service; in Wellington's words: "I am *nimmukwallah*, as we say in the East; that is, I have eaten of the King's salt and therefore I conceive it to be my duty to serve with unhesitating zeal and cheerfulness when and where the King or his Government may think proper to employ me." [1]

And as ever, our soldiers continue to be the real treasure that our nations entrust to us. Our service together with them forges a bond that one never forgets, as in Shakespeare's *Henry V*: "We few, we happy few, we band of brothers. For he today that sheds his blood with me shall be my brother. Be he ne'er so vile, this day shall gentle his condition." [2] First and foremost, the bond of leader and led in selfless service to country remains the keystone of our ability to venture into harm's way, to sustain the confidence of our political and popular leaders, and to protect our nations' interests.

In spite of the precision and speed of information, fog and friction will continue to bedevil military operations. Fatigue, confusion, fear, and the effects of stress wear down the ability of units to execute competently. Despite the growing visibility of the enemy as he moves equipment on the battlefield under the watchful attention of our sensors, our sense of his will and intent will remain vague. Ubiquitous technologies for encryption, passive measures like camouflage, and low-tech countermeasures will see to that. The instantaneous appearance of situational data available to our publics and leaders exacerbates what Clausewitz called the "remarkable trinity"--the violence of the people; the commander's challenge of seeing through uncertainty, chance, and probability; and the political purpose and effect as seen by the politician. The restlessness of the people and the awareness of the politicians make them more proximate partners today in decisions on operations than ever before.

In this dynamic environment, leadership will continue to matter. Consider a contemporaneous account of Gustavus Adolphus: "He was a hero in battle, not only because of his decisions but in his acts. He was careful in his deliberations, prompt in his decisions, undaunted in heart and spirit, strong of arm, ready to both command and fight." [3] Or consider John Keegan's assessment of U. S. Grant: "He confined himself to practicalities: carrying the war into the enemy's heartland, making its people bear the real burdens of the conflict they had brought on the republic and meanwhile sustaining the spirits of an army of electors in a struggle for constitutional orthodoxy." [4]

In addition to his adaptation of telegraphy and movement by railroad and river, Grant had that most useful of traits of a commander, "that of seeing into the mentality of his opponents." Grant had that rare and essential blend of operational instinct for what would work, the strength to press on through uncertainty, and the understanding of the successes his political leaders needed to sustain the war effort. [5]

In addition, personal integrity will always be a key to the acceptance of a leader. Even in *Beowulf*, at the very root of the English martial tradition, we find one of the elemental premises of military leadership: "Behavior that's admired is the path to power among people everywhere." [6] And returning to Grant, Keegan notes another critical trait, the ability to resist fantasy with republican sternness. We must preserve the means of developing leaders with such "republican sternness," a certain eye for the practical, an essential humility, and a human touch. [7] Again from *Henry V*, "We would not die in that man's company that fears his fellowship to die with us." [8] And as George MacDonald Fraser wrote of Field Marshall Slim, "And afterwards, when it was over and he spoke of what his army had done, it was always *you*, not even *we*, and never *I*." [9] In leading as an essential aspect of the operational art, the character and intellect of the leader will always matter.

As events become more superficially visible, the more susceptible public sentiment and the political definition of

purpose become. Now more than ever, a commander must explain the developing situation in ways that enable operational persistence. For we see increasingly the wisdom of Robert Osgood's definition of limited war, "one in which the belligerents restrict the purposes for which they fight to concrete, well-defined objectives that do not demand the utmost military effort of which the belligerents are capable and that can be accommodated in a negotiated settlement." [10]

One of the difficulties that such limited wars pose for the commander is that they require him, as Clausewitz wrote, "to remember that it is a slippery path he is treading, on which the god of war may surprise him, and to keep his eye always on the enemy that he may not have to defend himself with a dress rapier if that enemy takes up a sharp sword." [11] One might add that when the commander sees his opponent draw the sharp sword, he may have some difficulty convincing his political leaders it is time for him to use his own pistol. He must have the wit and political skills to see and set the problem ahead of time.

In the information age sustaining the spirits of the electors has become much more difficult. Modern commanders must not only inspire confidence among their soldiery, they must inspire sufficient confidence among their political masters to gain their support in persisting in operations even when the immediate, electronically presented virtual reality seems to bode ill or to threaten short-term political discomfort. This complication becomes especially difficult when forces are placed in harm's way in situations in which vital national interests are not directly threatened.

Finally, dress rapier or not, winning consists of accomplishing what Delbrück wrote was the first principle of strategy: "to assemble one's forces, seek out the main force of the enemy, defeat it, and follow up the victory until the defeated side subjects itself to the will of the victor and accepts his conditions." [12] In this vein, recall President Lincoln's charge to "Fighting Joe" Hooker. Upon assumption of command, Hooker requested permission to avoid the Army of Northern Virginia and move on Richmond. Lincoln responded: "I think Lee's Army, and not Richmond, is your true objective point. . . . Fight him too when the opportunity offers. If he stays where he is, fret him and fret him." [13]

Despite the risks involved for nations when the "push of pikes" begins, the most effective path to subjugation of the opponent's political will to one's own lies through the heart of his army and his ability to control his people and to protect his territory. In limited war it lies in destroying his ability to accomplish his objectives and to protect his political primacy against his own internal opponents.

We undoubtedly will see continued advocacy of high-tech ways to do this without using ground forces. But our experience in World War II, in Vietnam, and in Operation Allied Force offers us at least three lessons, one of which C. P. Snow documented in *Science and Government*: Bombing does not break national will; in fact, it will probably strengthen it. Furthermore, a treaty which leaves the opponent's army (and in totalitarian states his secret intelligence service) intact allows him to retreat into his own territory and marshal his population. Second, a relatively well-disciplined and ruthless force using aggressive information operations, passive measures like camouflage, and even obsolescent air defenses can protect itself from an air campaign. Finally, narrowing the area of technological competition to a contest between air capabilities and air-defense forces creates a dependence on a relatively small domain of capability, making the prospect of technological surprise more likely and more devastating for the attacker, with the associated political consequences.

In the final analysis, imposing one's will on an enemy involves threatening the integrity of his state, and that has historically meant--and for the foreseeable future will continue to mean--destruction of the opponent's land forces and threatening or conducting an invasion of his homeland. In peacekeeping operations, we have seen this principle at work in a somewhat different way in Bosnia. Threatening the entity's armed forces and undermining the power over them of the secret intelligence services, organized crime, and political radicals have been crucial aspects of progress there. More than ever, successful campaigns will depend on the ability of the commander to come to the contest with units that combine tactical excellence, superb intelligence skills, and operational endurance--qualities that lead to execution marked by exceptionally high competence. When that execution threatens the survival of the opposing leadership system, culmination is around the corner.

We will never win wars nor succeed in contingency operations without great battalions. Recall the performance of the 1st Regiment of Foot Guards at Waterloo, or the Gloucesters in Korea, or the 48th or the 78th on the Plains of

Abraham, the Roundhead cavalry at Naseby, the Iron Brigade, the 20th Maine, the 1st Minnesota at Gettysburg, or the "Blue Spaders" at the shoulder of the Bulge. If you take his comment in historical context, Cromwell had it about right: Great units combine excellent drill and practice with "a single spirit . . . in the passion and truth of belief, . . . a plain russet-coated captain who knows what he fights for, and loves what he knows." [14] Through tactical excellence and conviction, these units will not be beaten. Through their embedded ability to adapt, great battalions create operational opportunities by tactical successes unanticipated in the operational plan. As with the motivational link that must exist between leader and led, epitomized by Shakespeare's words of King Henry, operational art depends upon leaders of character focusing the efforts of great battalions.

In sum, as we look ahead we see the continuing relevance of Clausewitz's trinity, even in an environment in which the commander is more visible and in a sense closer to his political masters, and even as he becomes more vulnerable to the information operations of his opponent. As operational art in the 21st century shifts, it seems that four things remain constant, four buffers of the effects of change. They are:

- The bond of leader and led in selfless service to the state as a premise of military service.
- The character, intellect, and fighting competence of the leader.
- The value of tactical excellence.
- The ability of the leader to instill confidence and press on.

So now we arrive at the second question posed at the beginning: What must we do? Having settled on what we must hold constant in our theory of operational art, what must we do to allow us to understand the new realities of our changing environment and to adapt in ways that ensure we sustain the practice of art in operations while preserving the immutables in operational art? What are the critical enablers of change?

A final answer is not possible. I do have a general strategy however, a strategy for organizational change centering on this question: How do we improve leader competence? How do we systematically and progressively develop leaders who see and feel the battle, who seek opportunity and seize it, who welcome and adapt to new technology in their units and staff organizations, and who have the requisite moral and physical courage to fight through whatever operational challenges they face?

First, we must continue to recruit and retain the best people possible--which of course is more easily said than done. A four-percent unemployment rate in the United States and the different attitudes of Generation X make it harder to bring into the ranks of soldiers and young officers the talent we must have as our seed corn. [15] Additionally, once we train young men and women in skills such as management of computer networks, satellite communications, and electronics, industries attempt to lure them away with salaries the military will never be able to match. Consequently, we must continually reinforce with our youngsters the camaraderie of our units and the excitement of overcoming tough operational challenges together.

We seniors talk to our young leaders too little. And we are often accused of not talking straight. We must overcome that perception without pandering. One can also deploy a soldier often on missions, but if we want him to stay in the regiment, we'd better take care of his family with first-class services, attractive housing, high-quality educational opportunities for his children, reasonably competitive pay, and scheduled time off.

We also must invest heavily in the personal and professional development of our leaders. Self-study and intellectual preparation has always been important for soldiers, but that is so now more than ever. Forty years ago, C. P. Snow wrote about the two cultures--science and the humanities--growing farther and farther apart. [16] That trend continues with a new dimension. Our basic communications within the military and from it to other systems and the processes of the world marketplace are becoming increasingly dependent on the changing technologies that support the internet. Understanding how those technologies open new areas of capability is increasingly becoming the province of computer scientists and a growing network of gifted amateurs--known as hackers, phreaks, and crackers. Just think, someone in the Philippines writing a few lines of code in a relatively simple computer language caused major disruption in the worldwide nervous system of the entire internet. In the past, technological facility was not a critical skill for the soldier, at least outside the narrow field of his branch or arm. Now that kind of awareness is crucial to understanding how to harness the momentum of technological change.

Thus, we must develop programs for professional development that give our noncommissioned and junior commissioned officers solid grounding not only in how their equipment works and how to fight and how to lead, but in how the changing information environment affects them. In critical specialties such as network management and electronic warfare, we must adapt our programs for professional education, proficiency pay, and advancement. We'll never match the wages industry can pay, but we can make excitement, service, and status in our profession count.

With regard to field-grade officers, we must reinforce this pattern. We need to make available to a number of them--in addition to opportunities for self-study--opportunities in civilian graduate education in decisionmaking theory and in the intersection of information technologies that will allow commanders to manage the situational awareness upon which operational decisions will depend in the next decades.

In studies of the relationship between investments in computer technology and its effect on productivity, with the exception of telecommunications and to some extent banking, scholars Thomas Landauer and Paul Strassman find no correlation or causal relationship. Indeed, the correlation between funds invested and productivity gained seems slightly negative.[17] In his groundbreaking book *The Innovator's Dilemma*, Clayton Christensen explains how well-led, dominant companies allow internal processes to block out exploitation of new "disruptive technologies." These technologies initially lack the technological appeal and market potential of the corporation's current franchise, but through unseen potential for new application and creation of new markets render that franchise irrelevant.[18] In the military we cannot afford this dysfunctional approach. We must have the expertise that bridges the divide between the two cultures to incorporate systemic technical solutions that result in overpowering operational capability. To generate these capabilities, we must have tactically proficient combat-arms officers who have their eyes open to the realities and possibilities of the new information age, who can go to the right sources, and who can derive organizational capability from technical innovations. We must develop leaders who have what Christensen calls an "agnostic approach." [19]

Our development of field-grade officers must also include an increased focus on joint operations. Our staff colleges provide the first, best opportunity for embedding in our future leaders the understanding that while cohesion depends on the tribal traditions of regiments and services, success in campaigning depends fundamentally on fluency and competence in joint warfighting. With the greater reach of our systems, the blurring of the boundaries between what is strategic, operational, and tactical, and the increasing visibility of events in real time, the joint command, control, and integration of unit efforts is more important than ever. Army commanders exist to provide forces to or to fight the ground operations for joint force commanders. Now more than ever, national capability derives from the synergy of the components in the joint formation.

We also must do a better job of developing the competence of our young leaders in multinational operations. If Bosnia and Kosovo, not to mention Desert Storm, are any guide, major campaigns will increasingly be led by some kind of international coalition. Success in combined operations requires skill in consensus-building among one's allied subordinates based on sensitivity to the political realities created in their national instructions. We also must have officers who are willing to serve in combined operations and who are ready to subordinate national preference in the decisionmaking process that might affect the outcome of the campaign. Eisenhower made two critical decisions in the Battle of the Bulge. Upon receipt of the first reports of the German advance, he recognized the extent of the offensive and began moving reserves forward, notably the 101st Airborne and the 7th Armored Divisions. When the shape of the penetration began to portend that Bradley could not command his entire Army Group from his forward position on the southern flank, over the strong protests of his close friend and subordinate, Eisenhower reluctantly placed Hodges' army under Montgomery. Remember, Eisenhower was not fond of Montgomery and at one point almost went to Churchill demanding that one of them be removed. But in the moment of crisis, Eisenhower did not waver; personality and national difference had no claim on operational necessity.

Among staff college students and about-to-be general officers as well, we must foster a better understanding of the uncertainty inherent in operations and the processes by which they can best deal with that uncertainty. Our professional education must engender better decisionmaking by furnishing the intellectual tools that bolster leaders against stress, friction, and fog, and against the pressures of their fears and those of their political masters. We must encourage the practice of thinking in terms of joint and combined decisionmaking. In this regard we need a very sophisticated course

of hands-on case studies in how decisions are enabled and made, not just the study of staff duties and political science in a military context.

If we are to have great battalions, we must make our collective training even tougher. Opposed-force training that is assisted by instrumented training areas will become even more important to the capability of our units. Currently, in the US Army at our Combat Maneuver Training Centers, we can replicate any enemy and any operational setting. In 1993 we prepared Dutch Royal Marines for peacekeeping duties in Cambodia. Every six months at the same training area, we now conduct mission rehearsals for units going to Kosovo. Every year each battalion in US Army Europe spends 14 days at Hohenfels, fighting for its virtual life in electronically recorded battles with our specially trained "opposing force" or OPFOR. This crucible provides the essential breeding ground for the cadre that makes up the backbone of great outfits. We must make these soldiers physically and mentally tough.

We have become adept at replicating a set-piece enemy for our units. We do a good job of giving them an opponent that fights with consistent, predictable doctrine and tactical procedures. We must now move to the next level and present an enemy that uses asymmetrical approaches and who learns from our Blue Force, adapting to avoid our strengths and to exploit our tactical weaknesses as he moves from battle to battle. That way our battalions will internalize the reality of combat that the enemy learns from you and that circumstance reigns on the battlefield. Units must learn to anticipate the enemy's actions, find him, assess what he is doing, preempt him, and reassess again. This training is very expensive. But if we are to do our business with smaller forces, and under the intense scrutiny from our civilian masters that new information technology promises, we must pay the price for the great battalions this training enables. We can never precisely replicate battle, but we must make our training as close to war as we can, and in terms of replicating uncertainty, even harder.

Tactical excellence, while vital to campaigns, does not establish the sufficient condition of operational success. Along with tough opposed-force collective training for units in instrumented training centers, we must have similarly rigorous crucibles for joint and combined headquarters. We must find the time and resources for these crucial training opportunities in the form of opposed-force joint exercises in which leaders stress the seams of cooperation between service components. And we must ensure that in these exercises we maximize participation by the other services. It is far better to smooth out the frictions in peacetime than at a dead run under the pace of combat operations.

We also need to engage our politicians and media leaders as never before. In the US Army we have traditionally held the view that senior leaders should stick to their own knitting. To avoid any inkling of self-interest, officers have eschewed seeking out our executive and legislative leaders. That attitude should change for several reasons.

First, it is a great deal to expect of a President or a Prime Minister to be comfortable following the recommendations of an operational commander for whom he has no feel. After all, when the government or nation is at risk, leaders will accept advice that is uncomfortable, but they want to be confident that the military advice they receive is as competent as possible and sensitive to what they see as political reality.

Second, the parameters of operations are getting so complex, one must begin acquainting leaders with them before a crisis emerges. I have found that legislators often take a longer view of military issues than we do. But they cannot be expected to stay abreast of all the technical and operational developments that change how we do our business. It is the responsibility of the military to bridge this gap and to do so with simple--even elegant--explanations enabled by personal contact. It is ironic that in the information age, the growing technological sophistication of the art of operations requires an even more personal approach by the soldier to his political masters to engender their confidence in his operational art. Yet that is the truth. If we are to persevere in uncertain operations in a world in which outcomes seem instantaneously visible and their import obvious, military leaders must not only have operational competence, but must have relevance and currency with those civilian leaders who must answer to the people.

Communication with our leaders also requires another skill, a more sophisticated approach to the media. Whether we like it or not, for the overwhelming majority of the public, reporters are the interpreters of what we do. We must prepare our military leaders to accomplish several things in this regard. They must be able to convey to the naturally skeptical members of the Fourth Estate that they know their business and are speaking with honesty and competence. They must be able to tell their command's story in a way that is simple, credible, and on the mark. They must engender

in our soldiers and junior leaders--actually the best advocates of the command's message--the confidence and sensitivity to play their own role in telling the story. And finally, they must develop sensitivity to the time value of providing well-documented, accurate information to political leaders who must answer to the pressure of the daily press conference.

So, in sum, what are the best organizational strategies for dealing with this era of paradigm shift? First, recruit and retain our fair share of the best--easily said, not easily done. Second, invest heavily in the innovative development of leaders who understand the art and science of operational decision, who are students of joint and combined warfighting, and who have a technical awareness that makes them open to promising new approaches and capable of exploiting them. Third, make the crucible of collective training for our battalions and companies tougher in terms of intensity and tactical uncertainty. Include in normal staff training opposed-force joint exercises with the participation of other services as a routine element. Finally, develop military leaders better versed in dealing with the press and more responsive to the needs of our political leadership. They must understand the terms of the normal relationship of military subordinate to political senior as well as the special demands and pressures the information age places upon them. To engender the confidence that enables operational persistence, commanders must appreciate and act to meet the demands that the new information environment makes on political leaders as those leaders assesses the efficacy of what soldiers are recommending to them as decisive action.

In short, to succeed in an era in which the art of operations becomes ever more complex, we must recognize the immutable elements of the operational art, and we must reinforce the human attributes of leaders and soldiers that enable us to adapt to organizational change and to achieve operational and technical excellence.

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## NOTES

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1. The Duke of Wellington, 1805, upon accepting an obscure posting of brigade command in a military backwater after his victories in India. Peter G. Tsouras, *Warrior's Words* (London: Arms and Armour Press, 1992), p. 151.
2. William Shakespeare, *Henry V*, Act 4, Scene 35, lines 60-67.
3. Hans Delbrück, *The Dawn of Modern Warfare* (Lincoln: Univ. of Nebraska Press, 1985), p. 180.
4. John Keegan, *The Mask of Command* (New York: Viking Penguin, 1987), p. 207.
5. *Ibid.*, pp. 208-33.
6. Seamus Heaney, *Beowulf: A New Verse Translation* (New York: Farrar, Straus, Giroux, 2000), p. 5.
7. Keegan, pp. 208-33.
8. Shakespeare, *Henry V*, Act 4, Scene 3, lines 38-39.
9. George MacDonald Fraser, *Quartered Safe Out Here: A Recollection of the War in Burma* (London: HarperCollins, 1995), p. 37.
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11. Carl von Clausewitz, *On War*, trans. O. J. Matthijs Jolles (New York: Random House, The Modern Library, 1943), p. 30.
12. Delbrück, p. 293.



13. Lincoln to Hooker, 10 June 1863, *War of the Rebellion: Official Records of the Union and Confederate Armies*, Series 1, Vol. 27, Part 1, Reports (Washington: GPO, 1889), p. 35.
  14. Robert Debs Heinl, *Dictionary of Military and Naval Quotations* (Annapolis, Md.: United States Naval Institute, 1966 ), p. 221.
  15. See Leonard Wong, *Generations Apart: Xers and Boomers in the Officer Corps* (Carlisle, Pa.: US Army War College, Strategic Studies Institute, October 2000).
  16. C. P. Snow, *Science and Government* (Cambridge, Mass.: Harvard Univ. Press, 1961), pp. 73-84.
  17. See Thomas K. Landauer, *The Trouble with Computers; Usefulness, Usability and Productivity* (Cambridge, Mass.: MIT Press, 1996); Paul A. Strassman, *Information Productivity: Assessing Information Management Costs of U.S. Corporations* (New York: Information Economics Press, 1999).
  18. Clayton M. Christensen, *The Innovator's Dilemma* (Cambridge, Mass.: Harvard Business School Press, 1997), pp. 42-43.
  19. *Ibid.*, pp. 156-58.
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