

War, Peace, and Everything: Thoughts on Tolstoy

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What Clausewitz and Tolstoy were trying to do was to derive from the experiences of history the laws governing it. Although they failed, these 19th-century thinkers, each operating from a different perspective, anticipated what we've come to call chaos and complexity theory.

There is a curious moment in Tolstoy's account of the Battle of Borodino – page 774 in the new Richard Pevear and Larissa Volokhonsky translation of *War and Peace* – when two of the central characters of the novel, Pierre Bezukhov and Prince Andrei Bolkonsky, are interrupted by the sound of hoof beats, look up, and see Carl von Clausewitz and another officer riding by. One of the horsemen is saying to the other: “War must be extended in space. I cannot put too high a price on this view.” The other agrees: “The aim is to weaken the enemy, so one cannot pay attention to the loss of private persons.” This disgusts Andrei, whose family estate lies within the space through which this particular war is to be extended. “[A]ll there is in a German head,” he complains bitterly to Pierre, “is reasoning, which isn't worth a tinker's damn ... They gave him [Napoleon] the whole of Europe and came to teach us. Fine teachers!” [6, p.117-19; 10, p.774].

Pierre and Prince Andrei were at Borodino only in Tolstoy's imagination, but Clausewitz really was there: when Napoleon invaded Russia in 1812, Clausewitz resigned his commission in the Prussian Army, joined the Russians, and participated in the great battle [7]. The meticulous Tolstoy would have known this, and could well have read Clausewitz's great work *On War*, published posthumously in 1832, before writing *War and Peace* in the 1860s. If he did, Tolstoy's portrayal suggests that, like many other readers of Clausewitz, he misunderstood the point of the book. For not only are there similarities in the way that Clausewitz and Tolstoy depicted war. They also appear to have shared a sense of the relationship between theory and reality. And that relationship, in turn, relates to everything else.

Begin with war. Here is a famous passage from Clausewitz, which leaves no doubt that he knows what he's writing about:

Let us accompany a novice to the battlefield. As we approach, the rumble of guns grows louder and alternates with the whir

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of cannonballs, which begin to attract his attention. Shots begin to strike close around us. We hurry up the slope where the commanding general is stationed with his large staff. Here cannonballs and bursting shells are frequent, and life begins to seem more serious than the young man had imagined. Suddenly someone you know is wounded; then a shell falls among the staff. You notice that some of the officers act a little oddly; you yourself are not as steady and collected as you were: even the bravest can become slightly distracted. Now we enter the battle raging before us, still almost like a spectacle, and join the nearest division commander. Shot is falling like hail, and the thunder of our own guns adds to the din. Forward to the brigadier, a soldier of acknowledged bravery, but he is careful to take cover behind a rise, a house or a clump of trees. A noise is heard that is a certain indication of increasing danger – the rattling of grapeshot on roofs and on the ground. Cannonballs tear past, whizzing in all directions, and musketballs begin to whistle around us. A little further we reach the firing line, where the infantry endures the hammering for hours with incredible steadfastness. The air is filled with hissing bullets that sound like a sharp crack if they pass close to one's head. For a final shock, the sight of men being killed and mutilated moves our pounding hearts to awe and pity.

The novice cannot pass through these layers of increasing intensity of danger without sensing that here ideas are governed by other factors, that the light of reason is refracted in a manner quite different from that which is normal in academic speculation [11, p. 113].

Now here is Tolstoy on Borodino:

From the battlefield the adjutants he had sent and his marshals' orderlies constantly came galloping to Napoleon with reports on the course of events; but all these reports were false: both because in the heat of battle it is impossible to tell what is going on at a given moment, and because many of the adjutants did not reach the actual place of battle, but told what they had heard from others; and also because, while an adjutant was riding the mile or so that separated him from Napoleon, the circumstances changed, and the news he was bringing became incorrect. . . . On the weight of such

unavoidably false reports, Napoleon gave his instructions, which either had been carried out before he ever gave them or were not and could not be carried out.

The marshals and the generals who were closer to the battlefield, but who, like Napoleon, did not take part in the battle itself, but only occasionally rode into the fire, gave their own instructions and orders about where to shoot and from where, and where the cavalry were to ride and the infantry to run, without asking Napoleon. But even their instructions were carried out as rarely and to as small a degree as Napoleon's instructions. For the most part, what came out was the opposite of what they had ordered. Soldiers who were told to advance would come under canister shot and run back; soldiers who were told to stay where they were, suddenly seeing the Russians appear unexpectedly before them, sometimes ran back and sometimes rushed forward, and the cavalry galloped without orders in pursuit of the fleeing Russians. . . . As soon as these men left that space through which the cannonballs and bullets flew, their commanders, who stood in the rear, formed them up, established discipline, and, under the effect of that discipline, again led them into the zone of fire, in which (under the effect of the fear of death) they again lost discipline and rushed about according to the chance mood of the crowd [10, pp.799-801].

You might wonder, from reading these passages, how battles could ever accomplish anything. And yet Borodino – despite the fact that there was no clear winner – accomplished a lot.

The battle weakened the French and the Russians about equally; but the Russians had a vast country into which to retreat, abandoning Moscow as they did so. The French were far from their country, and advanced even farther when Napoleon could not resist taking the city, hoping that this would shock Tsar Alexander I into making peace. When it did not, Napoleon had no idea of what to do next: he was like a dog who had chased a car and actually caught it – then what? Meanwhile winter was coming, a fact of which the Emperor's lowliest private could have reminded him.

Clausewitz called this the “culminating point” of the French invasion, by which he meant that the French defeated themselves by exhausting themselves. The “center of gravity” had shifted against them, and now, with only a minimal military effort, the Russians were able to chase them out of the country. Tolstoy's portrayal of old, fat, seemingly slow-moving General Kutuzov makes this Clausewitzian point better even than Clausewitz did. As a

result, Napoleon lost his army and within a year and a half his throne. The Russian tsar toured Paris triumphantly, was received in London respectfully, and even dined at Oxford in the Radcliffe Camera while the dons, perched on ladders, gawked at him through the windows.

And at the end of another great war in another century, an American expert on Russia who was a careful student of Tolstoy also happened to read Clausewitz for the first time, connecting him with Borodino and its aftermath. He was George F. Kennan, and he did this in the summer of 1946 while preparing to teach at the new National War College in Washington. It was from Clausewitz's example of how advances can exhaust themselves and centers of gravity can shift that Kennan devised his strategy of "containing" the Soviet Union during the Cold War without exhausting the United States. Four decades later, with containment having been achieved and the Cold War ending, Mikhail Gorbachev, the last leader of the U.S.S.R., paid tribute to the elderly Kennan as "the friend of another country and . . . a loyal and devoted citizen of his own" [9, p.351].¹ So who says battles don't accomplish anything?

As these examples suggest, wars are full of surprises. They provide the most brutal of all interfaces between what is expected and what is achieved; and because there have been so many wars over so long a period of time, reflections on war have provided some of our most durable commentaries on the distance that lies between theory and practice. From Homer, Sun-Tzu and Thucydides through B. H. Liddell-Hart, Bernard Brodie, and Henry Kissinger – and certainly for the great war novelists like Patrick O'Brian, Pat Barker, and Joseph Heller – the gap between orders given and actions taken has been a constant concern. Nowhere more so, though, than with Clausewitz and Tolstoy, both of whom wrestled as seriously as anyone ever has with this problem, neither of whom resolved it to their satisfaction, or for decades afterwards for even their most conscientious readers.

Clausewitz died in 1831 before finishing *On War*, leaving us with a massive, unwieldy, and often contradictory text, the meaning of which has been debated ever since. To undertake a close reading of Clausewitz, I tell my students, is to risk schizophrenia: you will come out of it unsure of what he said, but also with grave doubts about who you are. Tolstoy did finish *War and Peace* in 1868, but felt obliged to accompany it with this puzzling disclaimer: "It is not a novel, still less an epic poem, still less a historical chronicle. *War and Peace* is what the author wanted and was able to express, in the form in which it is expressed" [10, p.1217]. Isaiah Berlin is not the only critic to have detected in Tolstoy "a tormenting inner conflict" – just what I warn my students about in Clausewitz – "between the universal and all-important but delusive experience

¹ I've seen Kennan's National War College reading notes in connection with the biography I am writing of him.

of free will,” on the one hand, and on the other “the reality of inexorable historical determinism” [3, p.458].

What both Clausewitz and Tolstoy were trying to do, I think, was to derive from the experiences of history the laws governing it. In this, they both failed. Clausewitz concluded that “no prescriptive formulation universal enough to deserve the name of law can be applied to the constant change and diversity of the phenomena of war” [11, p.152]. Tolstoy was more emphatic:

If even one man out of millions in a thousand-year period of time has had the possibility of acting freely, that is, as he pleased, then it is obvious that one free act of this man, contrary to the laws, destroys the possibility of the existence of any laws whatever for the whole of mankind [10, p.1200].

In this failure, they had a distinguished successor. Henry Adams, more than either Clausewitz or Tolstoy, grew up in a scientific age: a distinguished historian, he set himself the task of reconciling the infinite variables that populate the past with some “great generalization” that would not only explain it all but would also predict the future. History would become a kind of linear mathematics, establishing clear connections between causes and effects, and presumably between intentions and consequences.

But then, thanks to his friend Henri Poincaré, Adams encountered non-linear mathematics. “[I]f our means of investigation should become more and more penetrating,” Poincaré pointed out, “we should discover the simple under the complex; then the complex under the simple; then anew the simple under the complex; and so on without ever being able to foresee the last term.” Adams was appalled: “A mathematical paradise of endless displacement promised eternal bliss to the mathematician, but turned the historian green with horror.” For if the simple and the complex interacted with one another, then “[a]ways and everywhere the Complex had been true and the Contradiction had been certain. . . . Chaos was a primary fact even in Paris – especially in Paris – as it was in the Book of Genesis; but every thinking being in Paris or out of it had exhausted thought in the effort to prove Unity, Continuity, Purpose, Order, Law, Truth, the Universe” [2, pp.454-56; 5, pp.72-74].

That, then, is what Clausewitz, Tolstoy, and Adams had in common: they “exhausted thought” in the effort to reconcile the general with the specific. To put it in Berlin’s terms, they set out to become hedgehogs: to find out how one very big thing worked. For Clausewitz it was war, for Tolstoy it was history, for Henry Adams it was (in a phrase another Adams made famous), “life, the universe, and everything” [1]. All three, however, were too honest with themselves – and with us – to escape being foxes: they could not resist taking

an interest in all kinds of little things. They were, as a result of this tension, tortured souls.

Fewer souls torture themselves with that sort of thing these days, perhaps because there are more serious things to worry about, but perhaps also because the sciences of the 20th century – at least the physical and natural sciences – have made us comfortable with the idea that randomness and regularity co-exist. There are, to be sure, a few social science hold-outs, but exhaustion is taking its toll among them, as it did with Clausewitz, Tolstoy, and Adams. Reconsiderations are setting in [5, pp.52-70].

What's interesting, though, is the extent to which these three 19th-century thinkers, each operating from a different perspective, anticipated what we've come to call chaos and complexity theory. Alan Beyerchen and N. Katherine Hayles have documented this for Clausewitz and Adams, respectively [4, pp.59-90; 8, pp.61-90]. I'm not aware, though, that anyone has tried to link Tolstoy's theory of history – which weaves its way in and out of *War and Peace* and then gets 45 pages of its own at the end – with these more recent developments in the history of ideas. The new Pevear-Volokhonsky translation provides a good opportunity to explore that connection, and so in what follows I want offer a few suggestions for where such an inquiry might lead us.

The principal issue Tolstoy raises is what causes events – great and small – to happen. Divine will, whether emanating from one god or many, answered this question for the ancients, he noted, and no doubt would still have for the majority of the world's peoples at the time he was writing. Modern history, however, had rejected that explanation in principle but sustained something like it in practice, for did it not assume a pre-determined progression through a series of otherwise disconnected events? Here's how historians, in Tolstoy's view, accounted for the events of 1789-1815 (the passage is long, but uncharacteristically funny):

Louis XIV was a very proud and presumptuous man; he had such-and-such mistresses and such-and-such ministers, and he ruled France badly. Louis's heirs were also weak men and also ruled France badly. They, too, had such-and-such favorites and such-and-such mistresses. Besides, certain men were writing books at the time. At the end of the eighteenth century, some two-dozen men got together in Paris and started talking about all men being equal and free. That led people all over France to start slaughtering and drowning each other. These people killed the king and many others. At the same time there was in France a man of genius – Napoleon. He defeated everybody everywhere – that is, he killed a lot of people – because he was a great genius. And he went off for some reason to kill Africans, and he killed them so well, and

was so cunning and clever, that, on coming back to France, he ordered everybody to obey him. And everybody obeyed him. Having become emperor, he again went to kill people in Italy, Austria, and Prussia. And there he killed a lot. In Russia there was the emperor Alexander, who decided to restore order in Europe and therefore made war with Napoleon. But in the year seven, he suddenly made friends with him, then in the year eleven quarreled again, and again they started killing a lot of people. And Napoleon brought six hundred thousand men to Russia and captured Moscow; then he suddenly ran away from Moscow, and then the emperor Alexander . . . united Europe to take up arms against the disturber of its peace. All Napoleon's allies suddenly became his enemies; and this armed force marched against Napoleon, who had gathered new forces. The allies defeated Napoleon, entered Paris, made Napoleon abdicate, and exiled him to the island of Elba, not depriving him of the dignity of emperor and showing him every respect, though five years earlier and one year later everybody considered him a bandit and an outlaw. And so began the reign of Louis XVIII, whom until then both the French and the allies had only laughed at. . . . Then skillful statesmen and diplomats . . . talked in Vienna, and with these talks made people happy or unhappy. Suddenly the diplomats and monarchs nearly quarreled; they were already prepared to order their troops to kill each other again; but at that moment Napoleon arrived in France with a battalion, and the French, who hated him, all submitted to him at once. But the allied monarchs were angered by that and again went to war with the French. And the genius Napoleon was defeated and taken to the island of St. Helena, having suddenly been recognized as a bandit. And there the exile, separated from those dear to his heart and from his beloved France, died a slow death on the rock and bequeathed his great deeds to posterity. But in Europe there was reaction, and the sovereigns all started mistreating their own people again.

This is not what today's political scientists would call a "parsimonious" explanation of the European international system in those years, and that of course was Tolstoy's point: that the proliferation of variables – any one of which could easily have taken a different path – explains nothing. "[M]odern history," he complained, "is like a deaf man, answering questions that no one has asked him" [10, p.1181].

So if not God, and if not “modern history,” what else? Was there any way to find patterns in the past that explained its course, and perhaps could predict the future? “To find the component forces equal to a composite or a resultant,” Tolstoy insisted, “it is necessary that the sum of the components equal the composite.” But what if the “components” are the individual decisions made by millions of people as each of them lives through thousands of experiences? What if the “composite,” as a consequence, is beyond calculation? Just because two dozen Frenchmen started talking about freedom does not begin to explain why millions of Frenchmen made a revolution. Just because Napoleon ordered an invasion of Russia does not explain why hundreds of thousands of troops – some French and some not – carried out his orders. Just because great battles ensued does not explain why one side won the war: indeed it’s not even clear from Tolstoy’s accounts of what happens in battles – which closely parallels Clausewitz’s – how they could have had any result at all apart from confusion, panic, devastation, injury, and sudden death.

Clausewitz, at least, had an answer to this last question. It lay in what he called military “genius” – a combination of skills that allows a leader to embark on a campaign with a clear objective, to hold on to it in the face of all that will go wrong because it can go wrong (“friction” or, as a later generation would have it, “Murphy’s Law”), to size up the situations that result from this at a single glance (“coup d’oeil” or, as a later generation would have it, a “blink”), to scrap existing plans on the spot and improvise new ones, to inspire courage while enforcing discipline, and in the end to win the greatest possible victory at the least possible cost, preferably by so shaking the adversary’s self-confidence that he chooses not to fight in the first place – while at all times keeping military operations subordinate to the interests of the state on whose behalf they are being conducted.

These qualities could only arise, Clausewitz believed, from a mastery of theory – but he used that term in a particular way. It meant a distillation of past lessons for future leaders, but it did not mean trying to tell them what to do in circumstances no one could foresee:

Theory exists so that one need not start afresh each time sorting out the material and plowing through it, but will find it ready to hand and in good order. It is meant to educate the mind of the future commander, or, more accurately, to guide him in his self-education, not to accompany him to the battlefield; just as a wise teacher guides and stimulates a young man’s intellectual development, but is careful not to lead him by the hand for the rest of his life [11, p.141].

We teach Clausewitz at Yale by comparing theory to coaching. No coach would seek to prescribe every movement in every game. No player would deny,

though, that coaching produces the skills that win games. That's the sense in which Clausewitz claims a connection between theory and military "genius," and that in turn is how he thinks the conduct of battles – despite the confusion inherent in them – can be made to win wars.

Is there anything comparable in Tolstoy? He disparages, throughout *War and Peace*, the role of "great men" – unlike Clausewitz, he has no obvious conception of "genius." He is at times contemptuous of theory: those who seek to apply Darwin's ideas to human behavior, he writes at one point,

are like plasters assigned to plaster one side of a church wall, who, taking advantage of the foreman's absence, in a fit of zeal smear their plaster all over the windows, the icons, the scaffolding, and the as yet unreinforced walls, and rejoice at how, from their plastering point of view, everything comes out flat and smooth [10, p.1203].

Tolstoy is the least plasterer-like of novelists: there is nothing flat or smooth about *War and Peace*. And yet Tolstoy chose that improbable vehicle to carry his own theory of history: what other novelist has attempted anything like this, or has taken the task more seriously? So what was going on here?

One hint, I think, resides in what everyone acknowledges to be the most distinctive characteristic of *War and Peace*: the great shifts of scale that take place within it. Tolstoy places himself, and us, within the mind of Natasha at her first great ball, and within Pierre's as he gets himself into and survives a duel, within those of Prince Bolkonsky and Count Rostov, arguably the most difficult and indulgent fathers in modern literature. Yet Tolstoy zooms out from this intimacy to show us great armies sweeping across Europe, and then back in to focus on the emperors and officers who commanded them, and then still further in to give us as vivid a sense as anyone ever has of what it must have been like, from the ordinary soldier's point of view, to have lived, marched, and fought in such armies. Then he zooms out again after Borodino to show us Moscow in flames, and then in again to depict refugees from the burning city, among whom is the grievously wounded Prince Andrei, who dies in the arms of Natasha, with whom he had fallen in love, three years and several hundred pages earlier, at her first great ball. Google Earth, for all its own zooming in and zooming out, has nothing on Tolstoy.

He saw great significance, I believe, in this shifting of scale, not just for what it contributes to his narrative: it seems to be critical to Tolstoy's understanding of how history works. He's telling us that however we go about the writing of history – whether from the top down or the bottom up – history itself is happening simultaneously across an infinite number of levels. No historian has captured this phenomenon of simultaneity across scale as successfully as Tolstoy the novelist has done; and given the constraints under

which historians operate – that they're not supposed to go beyond their sources – probably no historian ever will. For most of what happens in history leaves no sources behind to begin with. So who's to say who's better equipped to recapture "what actually happened" – the historian or the novelist?

None of this, though, was of much consolation to Tolstoy, because he wanted to do more than just portray the past: he wanted to lay the basis for a science of history. The problem that confounded him was a very old one, dating at least as far back as Adam and Eve: how do you reconcile free will with determinism? It's understandable that Tolstoy saw a single free act as destroying all possibility of laws in history, for he would have been taught as a small boy that from just such an act arose Original Sin. One little mistake, and that's it. But read on, as hardly anyone does, in his final difficult pages of *War and Peace*:

[T]he new methods of thinking which history should adapt for itself are being worked out simultaneously with the self-destruction towards which, ever subdividing and subdividing the causes of phenomena, the old history is moving.

All of mankind's sciences have followed this path. Having arrived at the infinitely small, mathematics, the most exact of sciences, abandons the process of subdividing and starts on a new process of summing up the unknown infinitesimals. Renouncing the concept of cause, mathematics seeks laws, that is, properties common to all unknown infinitely small elements.

Other sciences, though in a different form, have followed this same path of thinking. When Newton formulated the law of gravity, he did not say that the sun or the earth has the property of attraction; he said that all bodies, from the largest to the smallest, have this property of attracting each other. . . . History stands on the same path. And if history has for its subject of study the movements of peoples and of mankind, and not the descriptions of episodes from people's lives, it should set aside the notion of causes and seek for the laws common to all the equal and inseparably bound together infinitely small elements of freedom [10, pp.1212-1213].

I'm not at all sure that I understand this, and I doubt that I'm alone: it's as if Tolstoy meant for us to wrestle with his meaning, even as he himself was wrestling with larger issues.

But here's what I think he may have meant: (a) that everything is connected to everything else, hence there is an inescapable interdependency of variables – forget about distinguishing the independent ones from the dependent ones; (b) that because of this interconnectedness, there will always be things that cannot be known – breaking things down into components will not make them more comprehensible because there will always be still smaller components; (c) that because there are limits to knowledge, people will always retain some illusion of free will, however infinitesimal it might be; and (d) that while laws may indeed govern these infinitesimals, they make no difference because we cannot feel their effects, therefore our illusion of freedom is for us freedom itself.

Any way you look at it, this was a tortuous argument. It tortured Tolstoy so much so that he eventually went back to the belief in God he had once derided as characteristic of primitive peoples: he even tried in his old age, not very successfully, to become primitive himself.² I cannot help wondering, though, whether all this would have happened if Tolstoy had lived a century later, had been granted a fellowship at the Santa Fe Institute, and had thus acquainted himself with the co-existence of randomness (for which read “freedom”) and regularity (for which read “laws”) that the sciences of complexity now more or less take for granted.

Tolstoy in Santa Fe is admittedly a stretch. But I do think that he, like Clausewitz and Adams, sensed the nature of complexity before they had the words to express it or the means to visualize it. They were in that sense, however unhappily, Founding Fathers.

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²Both Berlin [3] and Gallie [6] make this connection between *War and Peace* and Tolstoy's later life.

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