

**Crossbows, von Clauswitz, and
the Eternality of Software Shrouds:
Reply to Christianson**

Selmer Bringsjord & John Licato

030115

In his penetrating and compendious commentary, Christianson claims that reflection upon the advent and deployment of the crossbow reveals that our meta-argument has wider application against JWT than what we indicated in our paper. If hes right, *how* much wider? Well, since the crossbow case is of a pattern presumably seen countless times in the history of human conflict, if his reasoning is sound, our meta-arguments reach could be wide indeed. We confess to finding this prospect agreeable. But is Christianson correct?

There seems little doubt that the *structure* of his reasoning is correct. Why then do we say “*could* be wide,” rather than simply “is wide”? Because there is one spot in Christianson’s reasoning that seems rather vulnerable; we now explain.

The crossbow, of course, was not in and of itself an automated machine; in the terminology of contemporary AI (e.g. see Russell & Norvig 2009), the crossbow was not an **autonomous agent** taking percepts in (regarding e.g. the current landscape and targets therein), and performing the action of firing as an output. Instead, *persons* fired crossbows. Crossbows (again, in and of themselves), were, and still are, quite obedient and predictable. After all, lay a high-powered and well-functioning one down in a meadow, stand back, and there is nothing to fear as you stare at the motionless weapon: no projectile will be launched. This implies that if our meta-reasoning is really to apply, it must be the case that the *combined* system of person-plus-crossbow was autonomous and unpredictable. Christianson seems to see this, for he takes pains to for instance write

[G]iven that [humans with crossbows] now had the means to overturn the natural order of society, and that none of the traditional elites had any insight into their motivations ... [crossbows] were therefore immoral to deploy.

Were sympathetic; but we’re also skeptical. The elites didnt have *any* insights into the motivations of those given this new weapon? That seems implausible. This view implies that if at the time we were to sit down a representative member of the elites for an interview, and for example ask the following, we would receive nothing sensible in reply. “What do you think these peasants are likely to do, generally? Why?”

Christianson apparently senses the weak spot in his case, for he writes that those wielding crossbows “were *effectively* autonomous” (emphasis ours). Here he is (wisely) be hedging his bets. Though we dont claim to be experts, when at least one of us looks at the crusades, the main groups of players, including those suddenly armed with crossbows, seem quite predictable, ac-

tually. Regardless, absent further analysis and dialectic, the most that can be asserted, is this: The reach of our meta-argument, given the truth of certain socio-historical propositions, is *perhaps* wider than the coverage we originally described.

The second of Christiansons points seems to us spot-on, and we hereby take — to use his language — “our medicine. We did indeed fail to point out the broader context that Christianson reminds his readers, and us, of, and we shouldve alluded to this context in the target paper, especially given that we affirm, absolutely, the chief claims of von Clausewitz (von Clausewitz 1976) in this regard. War does indeed in large part pivot on what *might* happen, and on what the players believe might happen, etc. Ironically, our sustained analysis of nuclear strategy brings to bear machinery tailor-made by us to model the very nuances to which Christianson astutely points (Bringsjord, Govindarajulu, Ellis, McCarty & Licato 2014).

Christiansons final concern is expressed when he writes:

Kinetic weapons of a “conventional kind will continue to be available because when both sides have knocked out each other’s software, the matter will necessarily be decided by manual combat as it always has been.

In response, we simply report that on what Christianson sees as inevitable we are formally (and, by our lights, circumspectly) agnostic. From the perspective of some interpretations of physics and computation, couldnt it be that some, or even all, weapons become *permanently* shrouded in software and information? In fact, that this is a genuine possibility is perhaps even a corollary of our overall position, because if the shrouding can be maintained by resilient machines in command of their own power sources, knocking out software may eventually be essentially impossible.

References

- Bringsjord, S., Govindarajulu, N., Ellis, S., McCarty, E. & Licato, J. (2014), ‘Nuclear Deterrence and the Logic of Deliberative Mindreading’, *Cognitive Systems Research* **28**, 20–43.
URL: http://kryten.mm.rpi.edu/SB_NSG_SE_EM_JL_nuclear_mindreading_062313.pdf
- Russell, S. & Norvig, P. (2009), *Artificial Intelligence: A Modern Approach*, Prentice Hall, Upper Saddle River, NJ. Third edition.
- von Clausewitz, C. (1976), *On War*, Princeton University Press, Princeton, NJ. This is a translation, by M. Howard and P. Paret, of the 1984 edition from Princeton University Press. *On War* was originally published in 1832.