The Nature of the Military Organization

Van Hoeserlande Patrick

A task can be carried out by one person until that task comes under time pressure. From that moment on, the person needs to split the task into smaller parts or subtasks and look for help. To coordinate the subtasks into a final output, the collaborators have to communicate. As the number of tasks grows or time pressure builds up, more people will be drawn in.

More people means more time to be spend on communication. Because the number of individual interactions follows a 2 to the power of the number of people law (2^n), this growth is not sustainable. At a certain moment, the non-productive time spent on communication to coordinate the work and to integrate a member into the group will exceed the productivity gained.

This is the moment to organize or manage the work. We have introduced the concept of organization to get things done when individuals cannot do certain tasks by themselves anymore. Additionally, most organizational theorists and researchers agree that if you want to produce formidable outcomes, organizations are the answer. However, the root function for setting up an organization is to limit the time spent on communication. The ideal organization to achieve this has some sort of pyramidal form. One decides what to do and is responsible to communicate the decision to the next level. The number of interactions drops from 2 to the power of the number of members (2^n) towards 2 to the power of the number of levels (2^l).

Of course, this type of organization has its flaws and limitations explaining the reason why we invented so many variations, all ending up with more communication interactions than in the ideal model and thus increasing the time between the observation and decision phases of the OODA-loop. No wonder that in the military, the adherence to orders played such an important role because the good function of the pyramidal structure depends on the strict execution of a decision.

In 1937, Ronald Coase wrote an influential article under the title "The Nature of the Firm". It offered an economic explanation of why individuals choose to form partnerships, companies and other business entities rather than trading bilaterally through contracts on a market.

Given that production could be carried on without any organization, Coase asks, "Why and under what conditions should we expect firms to emerge?" Since modern firms can only emerge when an entrepreneur of some sort begins to hire people, Coase's analysis proceeds by considering the conditions under which it makes sense for an entrepreneur to seek hired help instead of contracting out for some particular task.

The traditional economic theory of that time suggested that, because the market is "efficient" (that is, those who are best at providing each good or service most cheaply are already doing so), it should always be cheaper to contract out than to hire.

Coase noted, however, that there are a number of transaction costs to using the market; the cost of obtaining a good or service via the market is actually more than just the price of the good. Other costs, including search and information costs, bargaining costs, keeping trade secrets, and policing and enforcement costs, can all potentially add to the cost of procuring something via the market. This suggests that firms will arise when they can arrange to produce what they need internally and somehow avoid these costs.

There is a natural limit to what can be produced internally, however. Coase notices "decreasing returns to the entrepreneur function", including increasing overhead costs and increasing propensity for an overwhelmed manager to make mistakes in resource allocation. This is a countervailing cost to the use of the firm.

Coase argues that the size of a firm (as measured by how many contractual relations are "internal" to the firm and how many "external") is a result of finding an optimal balance between the competing tendencies of the costs outlined above. In general, making the firm larger will initially be advantageous, but the decreasing returns indicated above will eventually kick in, preventing the firm from growing indefinitely.

Other things being equal, a firm will tend to be larger:

- the less the costs of organizing and the slower these costs rise with an increase in the the number of activities.
- the less likely the entrepreneur is to make mistakes and the smaller the increase in mistakes with an increase in the number of activities.
- the greater the lowering (or the less the rise) in the price of the input of production to firms of larger size.

Although Coase does not consider non-contractual relationships, I wonder if his article may give us some insights into the military organization. The conclusions of his study were based on the decision between hiring and contracting. Although contracting out support services has gained popularity in the military, this kind of service provision does not concern our core business (i.e. the equivalent of 'production'). So, even though the conclusions would apply to this set, I will not consider them further.

To draw some useful information out of the study, we need to determine the equivalence of a 'firm' in the military establishment. The existence of Armed Forces is not useful as, according to international rules, their creation follows only one rule: the existence of a nation. A 'command' is about the closest we, as military, come to a 'firm'. In the following paragraphs, I consider the existence of a command as equivalent to the existence of a firm.

The first two costs in Coase's list will increase with the spatial distribution of the transactions organized and the dissimilarity of the transactions. This explains why firms tend either to be in different geographic locations or to perform different functions. However, technology changes that mitigate the cost of organizing transactions across space will cause firms to be larger. Computers and internet are such technologies that tend to increase the size of firms.

Our distinction between regional and service-oriented commands follows the same reasoning as in the civilian world. We also see a tendency towards more jointness and more comprehensiveness.

Consider this idea when you observe an increased interest of the Air Command to absorb Space and Cyber. Combining different domains into one approach becomes feasible thanks to the increase in computing power and the enhancement in communications tools. As these technologies improve further, we will see an ever increasing span of control as well as a growth in the size of commands.

The relationship between technology and the lowering of the likelihood of making mistakes needs some clarification. For one, the commander will have access to more information, and being better informed should lead to fewer mistakes by ignorance. Also, he is able to contact anyone to ask advice; better advised means fewer mistakes. Simulations make it possible to test different options before deciding.

Although technology will allow an almost limitless increase in span and size, I wonder how far commanders will be able to cope at a human level with this. More information and advice is excellent, but will the commander be able to make sense of it all? Some are already speaking about supporting the decision-making process of commanders with Artificial Intelligence. They even suggest getting humans out of some loops.

The third cost for supplies seems a bit strange in a military environment. But, when we consider the costs of modern weaponry, we clearly see the benefit of having bigger armies, or at minimum common acquisition of big weapon systems. Although I do not think that this cost will, by the effect of technology, increase the size of commands, I foresee a trend towards more authority of existing commands. An EU acquisition will in the long term lead to an 'EU Defence'; NATO will be more and more involved in what is nowadays considered 'national'.

All considered, we seem to be heading to some sort of super, all-encompassing command. Did I miss something? Or is there an element not captured in Coase's study countering this expansion?