

A Combined-Arms Task Force (CATF) CP in a JANUS Center

Working in a **JANUS** center is a *stage in the operational preparation of a Combined-Arms Task Force (CATF) CP, which is most profitable.*

Without being a panacea, in particular because it does not include the representation of human factors and protracted periods, the Janus system is indeed **a training tool particularly adapted to the conduct of the combined-arms maneuver** of a CP at CATF level - combining an event generator and a teaching team.

BY LIEUTENANT COLONEL PIERRE SCHILL, S3 3RD (FR) MARINE INFANTRY BATTALION

JANUS, the combination of a simulator and a pedagogical approach

JANUS¹ is a **digital simulation of combined-arms warfare** (it operates only with a computer and it implements software only); **interactive** (operators intervene during the simulation process); **stochastic event** (each interaction outcome is reckoned then applied as an occurrence probability); and non-agglomerated (the basic item is the system: Main Battle Tank, vehicle, infantryman ...)².

This software is set up on a network computerized platform in five major centers throughout France³. In branch schools, in particular in the Army Armor School (in Saumur) and in the Army Infantry School (in Montpellier), the purpose of these centers mainly consists in training cadets. However, time slots are available for battalions to train.

A permanent staff sets up a teaching and center-implementing team; these centers are commanded by a center commander responsible for using simulation properly.

We consider a **player** level (a battalion CP for example), which is not directly in contact with simulation. The subordinate level for a player level is represented by response cells (company commanders for example), who carry out the interface between actual world and simulation: they receive orders, draft their own



ADJ Jean-Raphaël DRAHI/SIRPA TERRE

orders and they have them carried out by **operators** on the computer (center staff). JANUS “arbitrates” confrontations among opponent forces; each camp operates according to the principle - players - response cells - operators. When looking at the outcome reckoned by the computer (detection, destruction, etc.), response cells members report to players as if the maneuver had actually taken place on the battlefield.

Moreover, and once the exercise is completed, simulation enables to carry out an After Action Review (AAR) from tools such as “replay”, graphic analyses of carried out operations and an exploitation of the results recorded during the exercise.

The presence of the teaching team, an advantage for JANUS training

The JANUS center’s teaching team is even more important than the simulator; battalion CPs are interested in this team when training there and it enables them to get rid of daily constraints that bog them down.

The 3rd (FR) Marine Infantry Battalion (3^e RIMa) in Vannes had a year of coherent operational training between two overseas commitments. During this cycle, devoted to building-up in order to be committed under its battalion commander in the Ivory Coast within

the framework of operation “Licorne”, the CP took advantage of two self-training one-week training slots in a JANUS center. **Both exercises took place within a more global CP training framework**; it was also organized around training periods, “green squares” (MAPEX), and field training exercises; and also by taking part in exercises at brigade level (among which two exercises as second-level players on the Staff Course JANUS simulator and on the CP Battle Command Training Center (“CEPC”) SCIPIO simulator).

For both training slots, the battalion took advantage of an **important support from the JANUS teaching team**:

- exercise themes drafted by the center (general situation and brigade orders) from its tactical library and beforehand adapted to the specific training aims given by the battalion;
- a concise white cell at brigade level (acting as the higher level of command) carried out by center staff, owing to the fact that a brigade cannot set up a response cell at its level in these slots;
- the center fully provides for the Opposing Force (OPFOR) and takes it into account.

Today, an infantry battalion CP is limited in size, restrained by time, limited as regards its planning capability: it is an instantaneous conducting tool. Thus, it is torn apart between daily training management constraints, company operational training and its own training as CATF CP. Within the framework of its own self-training, it is difficult to have human resources available to man its tactical CP, the exercise direction and control staff and environment.

By **providing it both with “all-inclusive” exercises, part of the environment representation and teaching support, JANUS centers** meet an actual requirement from battalions.

A simulator as an event generator

For a battalion-level exercise, this simulator is before all an event generator - independently from its specific properties; it is worth only because of the **richness of its environment replicating capability**, tailored according to training aims.

The representation of real life for these exercises carried out by battalions was organized - in both cases - into two levels (company commanders who were second-level players thanks to a second response cells layer set up by subordinate platoon leaders). Combined-arms augmentations were provided by the other battalions of the brigade (officers and NCOs from an armored company, an engineer company and a FIST (Fire Support Team)).

Though running against time, training carried out by battalions in JANUS centers is a clear objective, enabling to summon up energy. Spending time in a center, out of a garrison, decreases daily concerns and **increases training time performance**.

Thus, the inertia effect of a simulator is striking: as regards effective six-hour-per-day simulator slots, a **combined arms task force (CATF) CP** works between twelve and eighteen hours including preparation, order drafting and dissemination, rehearsals with subordinates and lessons learned from teaching. Moreover, this “command and control” dialogue is an opportunity for subordinates to train, which can be enhanced by the setting up of an additional subordinate response cells level.

While waiting for a JANUS future version that would actuate robots, basic pawns in this system have no initiative. Thus, their tactical agility mainly relies on the operator dexterity and it decreases as soon as the number of pawns to be operated increases. For an exercise at CATF level, this quantity becomes so important that micro-tactical phenomenon sharpness decreases and they have to be considered globally: at this level, a JANUS simulator is **more an event generator than a tactical magnifying glass**. However, it is the core for representing the real life, but it only takes shape through the human environment that is attached to it (higher levels and adjacent levels response cells, subordinate operation sophistication, OPFOR powerful representation).

Thus, if we cannot consider a JANUS sequence as the representation of a tactical reality in the field, the resulting **decision cycle** supported by it within the CATF CP is quite actual. From then on, it can be dissected, assessed, enriched,

and improved. In this field, a simulator guarantees the unexpected and it embodies a real enemy will that operates in reaction to the will of the CATF CP. The **first exercise** carried out by the 3rd (FR) Marine Infantry Battalion was performed at the JANUS center located in the Army Infantry School in Montpellier; the tactical CP was set up on wheels; tactics was favored with the battalion CP as the main training target level (material CP setting-up and procedure training); company commanders were the secondary target level (intelligence and situation follow-up, upward and downward information forwarding).

As for **the second exercise**, it was carried out in the JANUS center located in the Army Armor Center and School in Saumur. This time, the CP was set up in hardened facilities in the center; and logistics was favored, at the levels of battalion CP and of battalion combat trains.

The JANUS simulation system does not enable to avoid teaching choices. All efforts should be offset by sacrifices: choosing a target level means that the other ones are less interesting and profitable (the CATF CP to the detriment of company commanders); choosing a specific area results into the other ones being less relevant (logistics representations instead of tactics).

Protracted time and psychological effects: both JANUS limitations

Currently, it is difficult for JANUS to represent protracted periods and psychological effects and it is a limitation to its field of activity. As it is difficult to represent combat human and psychological factors and to keep them during protracted periods - in particular on urbanized terrain - **low-intensity operations - among others environment control or the management of refugees and populations - can only be modeled approximately in JANUS**.

As operators get rapidly tired on computer terminals, simulator war-game sessions are limited to a few hours a day. To take advantage of carried-out operations to the largest extent, preparatory operations and approach movements - which would correspond to intense sequences and periods of



implementation of coordination measures - are, most of the time, limited to the bare minimum. **Carried-out missions can only be short and they cannot take place during protracted periods.**

Obviously, effective maneuver periods on this simulator become very dense and very often they lead to action spiraling out of control and to very high losses, thus numbing any psychological realism. **Thus, the tactical neutralization threshold has no meaning** and what is left of units - even if they are practically destroyed - inevitably keeps obeying operators.

Urbanized terrain models in the current JANUS version provide us only with a **fragmentary representation of constraints and of the difficulty** to grasp it (most buildings cannot be reached, unawareness of air management...). Nevertheless, it enables to highlight the importance of coordination measures in this environment.

In addition, **task organization and liaison difficulties** - part of war haze - are partially **bypassed** because of easy

direct contacts between the members of the response cells collocated in the center.

JANUS, an efficient tool for CATF CPs

Nevertheless, JANUS is one of the most efficient tools for CPs to train and prepare for and conduct combined-arms warfare at CATF level.

The JANUS simulator is **intrinsically fitted to combined-arms warfare**. Better than any MAPEX scenario or field exercise, it enables to represent the effects of all weapons, destructions and casualties. On this account, combined-arms dialogue fits into it: sanctioning the FER (Force Exchange Ratio) in a realistic way, it highlights the concentration of efforts and the combination of assets; and it is perfectly suited to determine the “major effect”⁴.

As regards non digitized units, JANUS is also a very good training support tool for unit positioning and the forwarding of units’ updates to the CP for it to get an accurate tactical picture.

On the other hand, the efficiency of the combined-arms JANUS tool results **from the center’s teaching assets**: tools to activate the system - network recording, “replay”, combat effectiveness follow-on ... - are fitted to a detailed analysis of power and combined-arms mix. The expertise of the center’s commander and of his team members at their own levels guarantees the relevance of lessons learned during the various training periods.

However, the **indirect effects of JANUS training** are the most impressive: beforehand, this symbolic meeting is considered by a brigade and its battalions as an intense combined-arms operation. Infantrymen, tankers, engineers, gunners taking part in the exercise together vouch for a combined-arms dialogue, a prelude to battle-seasoned cooperation.

¹ The origin for the name “JANUS” is the name of a Roman god with two faces, who guarded Rome city gates. Indeed, JANUS was one of the first simulations enabling to carry out double-purpose exercises, i.e. exercises in which enemy and friendly forces have the same maneuver capabilities.

² www.cdef.terre.defense.gouv.fr/organismes/dsro/janus/janus.htm

³ Five sites answer to the Army Training Command: the Montpellier center (Army Infantry School or EAI), Draguignan center (Army field Artillery School or EAA), Saumur center (Army Armor Center and School or EAABC), the Angers center (Army Engineer School or ESAG), and the Compiègne center (Combined-Arms and Services Staff School or EEM = CAS₃); one center answers to the Forces Employment Doctrine Center: the Simulation and Operational Research division or DSRO Center in Paris.

⁴ “Effect to realize” in order to execute the mission given (in the French decision-making process).

Thus, JANUS technical changes should concentrate on a better representation of protracted periods, possibly through an increased automation of basic pawns in the system. Even more than the very JANUS simulator, **an overall training in the JANUS center** - simulator, teaching environment and intense action carried out during this period - **is one of the combined-arms tools, which is best fitted to combined arms task force CP training.**

Thus “remote-simulation” that would enable to train from garrisons includes drawbacks. Between a strict centralization for CATF training and an expensive asset scattering, **JANUS local centers** can **perennially** provide battalions with the efficiency of a **flexibility adapted to their requirements and constraints.**