Two Weeks with a Network-Centric Infantry Company in an Urban Warfare Trial

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The Trial

- Location: An urban training "village" in the Israeli National Training Center (NTC)
- Three teams participated
  - Blue team: An elite battalion-size infantry unit
  - Red team: "insurgents" in the village
  - White team: "innocent civilians"
- Purpose: evaluate the combination of new battalion organization and equipment
A rather unusual battalion...

- More fire support - artillery and air - and more combat engineering assets than is usual
- Lots of intelligence gathering devices (in fixed positions around the village, during the trial)
- The battalion had a prototype man-portable command & control system
- But battalion headquarters was located in a fixed heavily computerized tent, near village
- An early prototype “future land warrior” kit
Conduct of the trial

• The trial consisted of twelve exercises:
  – 6 platoon exercises
  – 3 company-size task force exercises
  – 3 battalion-level exercises
  – (day and night, mounted and dismounted)
• All vehicles and some foot soldiers were instrumented by the NTC -> info supplied in real time to trial commander
• Briefing and debriefing in lecture “rooms”
Safety considerations

• No live fire, but many people and vehicles, some armored, in the narrow alleys ->safety!

• Each platoon and company was accompanied by a controller/observer who acted as safety officer

• Many visitors, who were not allowed into the village. Were invited into a tent with computers, displays and speakers

• “Issue observers” - not allowed, except...

• We observed the lowest levels - company and below - from assembly into the village, inclusive
les Marines au corps à corps dans l'enfer
de la côte 881

Dans ce paysage, à quelques
kilomètres du 17e parallèle, on
demande que les victimes n'ont
pas de nom mais des numé-
ros; les Viêts automatisés sur
leurs homologues de l'ennemi;
le piège; ils veulent étouffer les
Américains dans la boue; or
la côte 881, Le
Les deux
deux, la
nuit
nuage de
napalm, ma
poussière de
battant,
eux sous
A chaotic
fight,
the
eastern
side,
and
the
150 suicidés.
Warriors of the map vs Warriors in contact

• It is easy to use computers to help “warriors of the map”, like staff officers at division HQs (maps, orders, tables). Once computerized, info can be easily transmitted to others.

• It is much more difficult to help warriors in contact. Their eyes and hands are busy, and not with their computers... They talk a different language - not the language of the map but the language of contact (language of range card?)
We focused on the interaction between the computerized C&C system and warriors in contact and will divide our observations into three groups:

- The individual riflemen
- The junior commanders
- The help battalion headquarters can offer the warriors
The individual riflemen

- Had a variety of personal computer connected to the battalion Command & Control system
- PDAs? In the pocket, most of the time
- Helmet-mounted displays? Can’t watch display and terrain at the same time
- Watching info versus feeding info
- GPS -> easy to feed self-location automatically (GPS accuracy? when under a roof?) (comm delays -> available info out of date)
The individual riflemen (cont.)

• With GPS Locator + rangefinder/compass it is easy to feed location of point/enemy looked at
• But the identification and description of the point looked at? This info was rarely fed by regular infantrymen. Fed only by specialists
• Multiple sightings of the same enemy (made by different people or at different times)
• Display out-of-date info? Might be misleading
• “Sighting” friendly troops as enemy
The Junior Commander

• Sees only isolated snapshots of his display
• Can’t devote sustained attention to his display
  -> difficult to identify developments
• For example: can’t turn isolated sightings into an identified “track” of an enemy on the move
• Tends to concentrates on his immediate area and on his immediate enemy
• Will devote more attention to his display only when he would anyhow stop, observe, think...
More Info Available, but...

- Info is raw. Even own force location is raw
- At higher levels, analysis (filtering) & synthesis (aggregation and abstracting) leads to a Common Operating Picture (COP) -> common working assumption (hypothesis)!
- COP in the company? Changes/details?
- Junior leaders will have a better (not perfect!) picture, will still base decisions on mission, enemy, terrain (and on working assumptions)
- Situational awareness - “macro”, not “micro”
Video to the company?

- Since 1991 we have all seen battle video, and everybody wants to have video
- Can transmit video to company. Should we?
- Interpreting video takes some training and sustained attention. (during combat?)
- Lay people who received video often did not understand what they are seeing
- Give company interpreted stills, not raw video
Helping the Junior Commander

• When radios were heavy and bulky we gave him a radio-man, now we give him a C2-man?
• The C2-man devoted attention, fed info, and alerted the commander when something important occurred. (in-crew communication?)
• Will a mounted company commander still command his vehicle? (or watch display)
• Most of the help will come from the battalion!
Most Help - from Battalion HQs

- Because HQs people are sitting at “desks”, & can devote sustained attention to single tasks
- Assign to each company commander an S3 aide? An S2 aide? Combine the roles of both aides and assign each company commander a “controller”, who will supply him with a peripheral situational awareness?
- The battalion HQ will become bigger, and may suck people from the companies. (What??!!)
Conclusions?

• Reliance on “happiness tests” for assessment of objective issues is all too common [Alberts & Hayes, Code of Best Practice]

• Bliss was it in that dawn to be alive, But to be young was very heaven! [Wordsworth]

• Bliss was it in those weeks to spend time with the young soldiers, the weather was nice, and the dessert was blooming
Conclusions

• This trial doesn’t prove much, but leads to interesting questions and hypotheses
• The main question: can network-centric warfare help warriors in contact
• The tentative answer: NCW can offer important but partial help
• Should try not to overwhelm warriors with raw data - supply them with information prepared (cooked? digested?) at higher level HQs
The Fog of War Will Still be with Us

- Help with navigation, own force locations, and boundaries is very important, even if partial
- We may have more information about enemy
- But COP will still be neither complete nor entirely accurate and up to date
- Will still have to base decisions on analysis of terrain and possible enemy courses of action and on common working assumptions