Pyrrhic Victories

Mod for Beyond the Sword 3.19   version 0.3   2014/10/30

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User Manual
(draft version 0.32)

Modifies combat to make it more predictable and less winner-take-all. If a unit would die despite superior odds, combat ends in a retreat instead. The unlucky unit receives little experience, if any, whereas the unit that survived combat *against* the odds gains much experience. (There is no clear winner; hence the name of the mod.)

For questions, comments and current activities, please visit the associated forum thread on Civfanatics: http://forums.civfanatics.com/showthread.php?t=526703

Combat rule changes

At the beginning of combat, odds are computed as normal, and if they strongly favor one unit, the mod marks that unit as *protected*. The standard threshold is 65%, and can be changed in `Pyrrhic Victories/Assets/XML/GlobalDefines.xml`. Perhaps 65% don't "strongly favor" either side, and the question is rather: "At which odds is it frustrating to lose a unit?"

If a chunk of damage would kill the protected unit, that damage is discarded, and whichever unit attacked *retreats* to the tile it attacked from. Retreat is a new concept, but works just like withdrawal; only the resulting experience (XP) gains are different:

- Regardless of the combat outcome, the protected unit earns 1 XP with a probability equal to the ratio "opponent's strength : protected unit's strength". That is, the stonger the opponent, the likelier a gain in XP is. (In the original game, units always gain at least 1 XP, so this randomness is novel.)

- For beating the odds, the non-protected unit receives 2 or 3 XP multiplied by the ratio "protected unit's strength : other unit's strength". The first factor is 3 if the non-protected unit attacked, and 2 otherwise. (In the original game, attackers even receive 4 XP, twice as much as defenders.)

- *Withdrawals* always award 1 XP to the withdrawing attacker and none to the defender; no changes here.

Rationale: A retreat should be almost a victory of the weaker unit. Eliminating the stronger unit would be too high a reward; dealing a high amount of damage and gaining an edge in XP is next best thing. That way, combat retains a good deal of tension. It's also realistic that XP gains don't depend on the combat result: One doesn't have to win in order to learn. Lastly, the mod distributes less experience per combat overall. This is because retreats make it easier for units to survive a high number of encounters.

Retreats diminish the value of withdrawal abilities in cases where the odds favor the attacker because a retreat isn't far worse than a withdrawal. To counter this, the mod **increases all withdrawal probabilities by a factor of 1.5**. This can be changed in `Pyrrhic Victories/.../GlobalDefines.xml`.

Interaction of retreats with other combat mechanisms:

- Flanking: Retreating attackers do not inflict flanking damage; only withdrawing attackers do. Since the mod increases withdrawal odds, flanking abilities arguably become more powerful.

- Great Generals emerge based on the total experience gained by a player's units. That includes experience from retreats. The mod does not directly change the rules for Great Generals though.

- Air combat is unaffected by the mod.

- War weariness: A retreat increases war weariness as if the protected unit had been killed. This is a small additional reward for units that beat the odds.

War successes aren't a combat mechanism but an AI-internal heuristic. The AI does not recognize retreat as a war success for either side. I haven't otherwise adapted the AI to the combat system changes. I'm not sure how much the mod even affects optimal combat decisions, and estimate the effect on AI stupidity to be negligible.

For developers

The modified source code files can be found in `Pyrrhic Victories/CvGameCoreDLL`. I've labeled my changes in-line with "`pyrrh`", or enclosed them with XML-style tags: `<pyrrh> ... </pyrrh>`. Most of the changes are in `CvUnit.cpp`.

Changelog

version 0.3 (Aug 2, 2014)

– Added parameters for the XP gained when surviving against the odds (as attacker/ defender).

– Changed a few instances of game text that used "retreat" as a synonym for "withdrawal".

– In-game text added: Showing retreat odds and color-coded retreat messages.

– Retreats contribute to war weariness.

– Retreating attackers no longer deal flanking damage.

– Increased the threshold for units being protected from elimination from 60 to 65.

– Forked Pyrrhic Victories out of "Advanced Rivals"; now a stand-alone mod component.

version 0.2 (May 28, 2014)

– Fixed a bug that led to units always gaining 1 XP when they were supposed to gain 0 or 1 XP probabilistically.

version 0.1 was released on May 23, 2014