

# A Proposal for the Redesign of the Modifiers Panel

*courtesy of Cole Reed (0knowledge)*

The goal of this proposal is to provide an evaluation of the current separation of the particle and physics modifier properties from the modifiers panel, and to present a viable solution for their elimination and the subsequent migration of their contents to the modifiers tab of the properties panel. Emphasis is put on a redesigned modifier stack that will more efficiently display modifier properties both individually and in multiples.

## ***The Story so Far...***

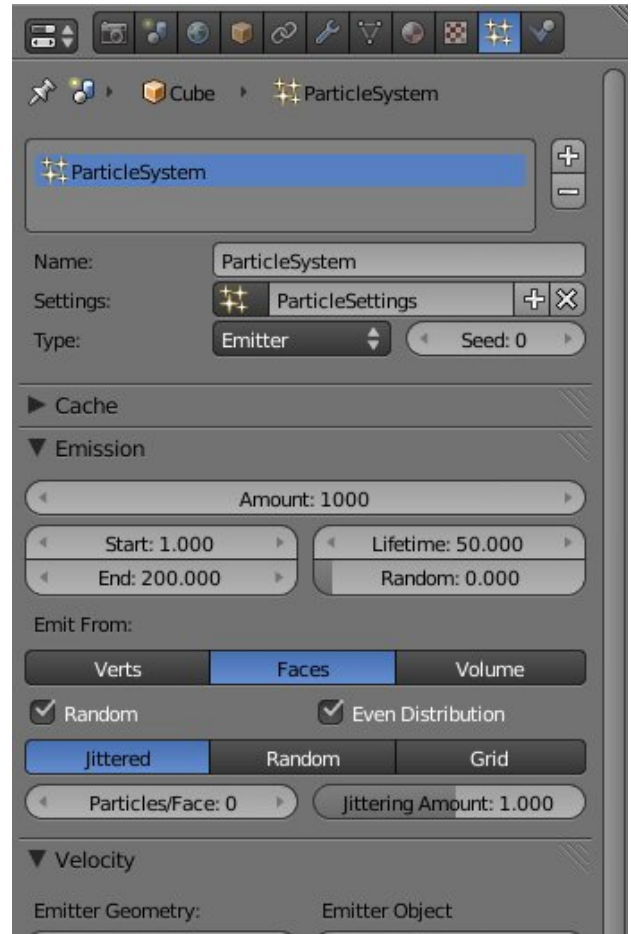
Currently there are two additional tabs within blender's properties panel header for the sole purpose of interacting with blender's particle and physics systems, as seen in (figure 1).



*Fig 1: The two tabs at the far right are for particles and physics systems respectively.*

The separation of the particle and physics systems from the modifier stack is not without reason. The particle system by itself is composed of a number of dropdown panels of related settings and variables, and can easily take up the entire vertical length of even a large monitor when several are expanded. The same can be said of the physics panel as well.

To have all of these properties accessible within the modifier stack's current design would undoubtedly lead to excessive scrolling, visual confusion, and not the least bit of frustration.



*Fig 2: Partial view of the particles panel.*

## So What's the Problem?

While the current solution of separating the particle and physics settings from the modifier stack solves the issue of overloading the modifier stack with a cumbersome amount of settings, it is not without its problems.

### It's Not You It's Me

In essence the particle and physics modifiers are currently in a quasi status, where they are neither completely integrated with the modifier stack nor completely independent of it. These panels being too large and unwieldy to fit within the restraints of the current modifier stack, yet by their nature must be represented within it.

This results in being a somewhat confusing relationship to the modifier stack, and a lack of consistency with how other modifier properties are edited.

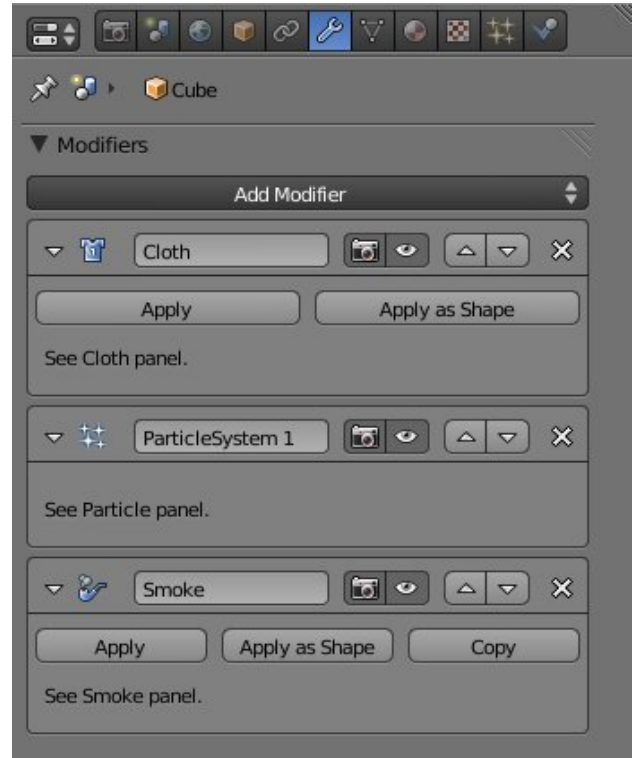


Fig 3: Particle and physics stubs in the modifier stack.

### You're Physically Obese

The next issue occurs within the physics panel. Whereas the particles panel only needs to contain properties and ui elements related to the particle system modifier. The physics panel must account for many different physics modifiers, some with several dropdown panels a piece. This can quickly become cumbersome for the user to navigate when more than one physics modifier is being applied to an object, and simply additional visual clutter when they are not active.

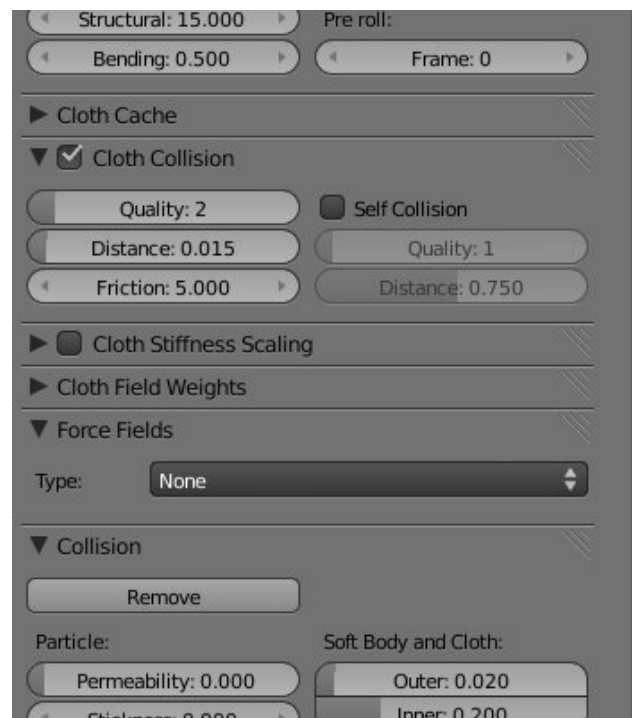


Fig 4: Modifier settings in physics panel.

## Actually,... It's You.

The modifier stack, even with only its current content, is not without its flaws.

After adding just a few modifiers to an object a user can quickly become burdened with excessive scrolling and visual scanning for the modifier they want to adjust.

While individual modifiers can be collapsed to create less distraction this can become tedious in practice.

When a user changes the order of the modifier stack the modifiers leapfrog each other. Trying to move one modifier up or down several levels quickly becomes visually disorienting. Although a drag and drop solution would help overcome this disorientation it would still be cumbersome to reorganize a sufficiently long list of modifiers.

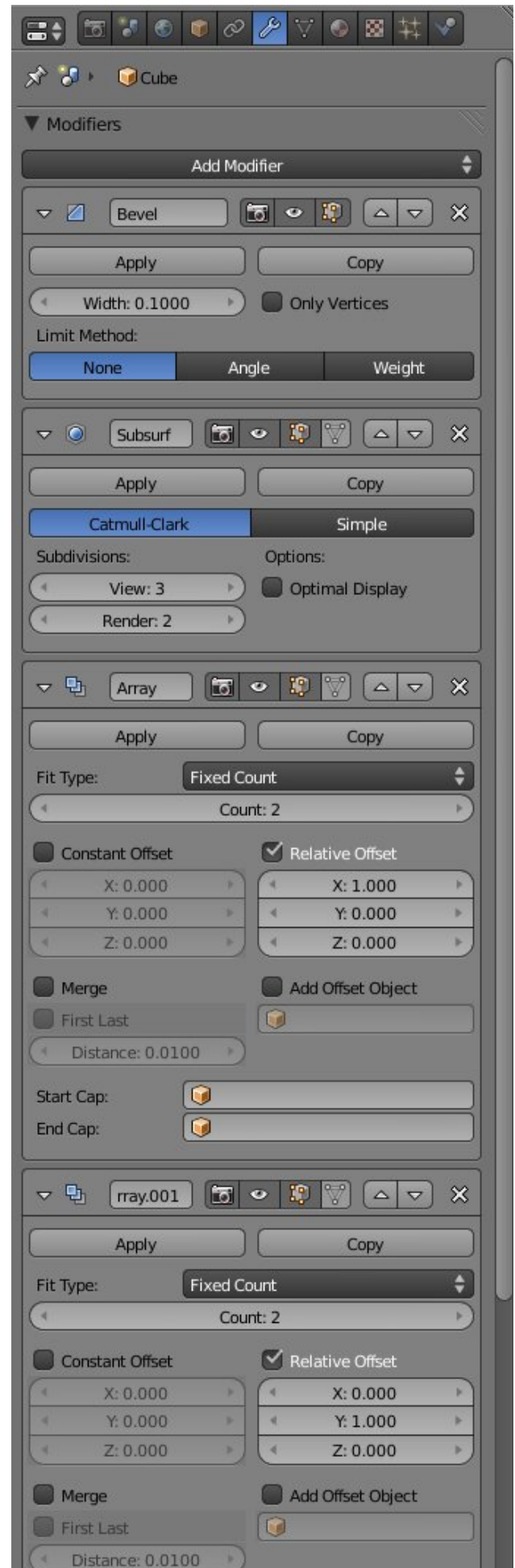


Fig 5: List of standard modifiers

## Don't Panic. There Is A Solution!

The author of this proposal believes that the addition of a simple list based ui element along with some intuitive controls would greatly enhance the organization and efficiency of the current modifier tab ui, while eliminating the proceeding issues.

### Show Me The Mockups!

The following mockups and text are presented to demonstrate how this new modifier panel would look and work.

As can be seen in (figure 6) adding a list view to the modifier tab greatly increases the ability of the user to quickly see what modifiers have been added to the object and in what order they are being applied.

Modifiers can be quickly turned off or on in the 3d view display or for rendering in the list view.

The up and down arrows at the bottom right of the list view make the reordering of modifiers a simple and precise process.

Modifiers can be quickly removed from the stack by selecting them from the list and clicking the x on the upper right of the list view.

The arrow just below the X (figure 7) opens an additional options panel to copy, paste, and duplicate modifiers within the list or to other objects quickly.

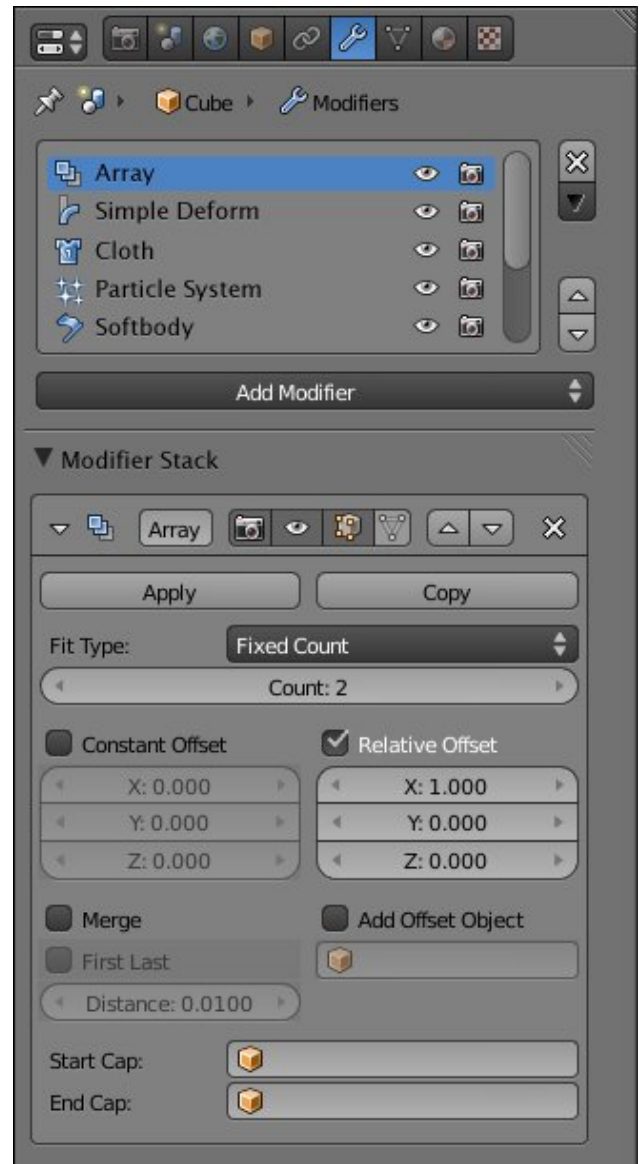


Fig 6: Redesigned modifier tab with list view



Fig 7: Additional options panel

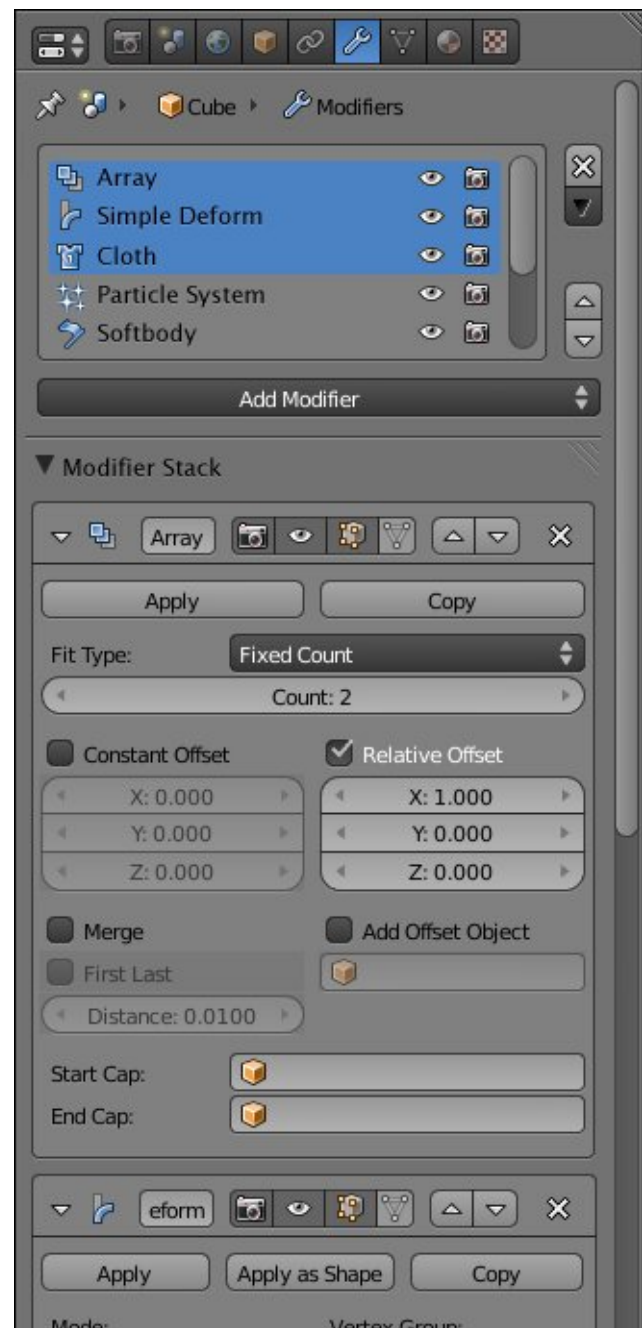


It is at times convenient to have the settings for multiple modifiers visible for editing. To accommodate this the modifier list will provide controls to select and display more than one modifier at a time.

Shift select (shift + left mouse) to select all modifiers between the first and last modifier selected in the list. (*figure 8*)

Control select (cntrl + left mouse) to select specific modifiers from the list to display. (*figure 9*)

By allowing the user to view settings for individual as well as multiple modifiers there is no compromising coherence and control for convenience or vice versa.



*Fig 8: Shift select to show multiple modifiers*



*Fig 9: Cntrl select to show specific modifiers*

After establishing a new mechanism for organizing and viewing modifiers the inclusion of modifiers with many variables becomes practical.

In (figure 10) the cloth modifier has been reintroduced into the modifiers panel in its complete form. It still retains collapsible sub-panels for better organization and the ability to only display relevant information.

The cloth modifier can now be shown by itself and no irrelevant or unused panels dedicated to other physics modifiers need clutter the interface while adjusting its settings.



Fig 10: Cloth modifier shown in new modifier panel.

In this redesigned modifier panel, since it is no longer necessary to show every modifier at the same time, there is also less need to create such a defining separation between each modifier.

In (figure 11) an alternative mockup shows what the modifier stack might look like with out each modifier being placed in a containing box, keeping them visually more inline with the rest of the 2.5 panels.

While the pros and cons of such a change are debatable, the fact that it becomes more practical based on this redesign is probably not.

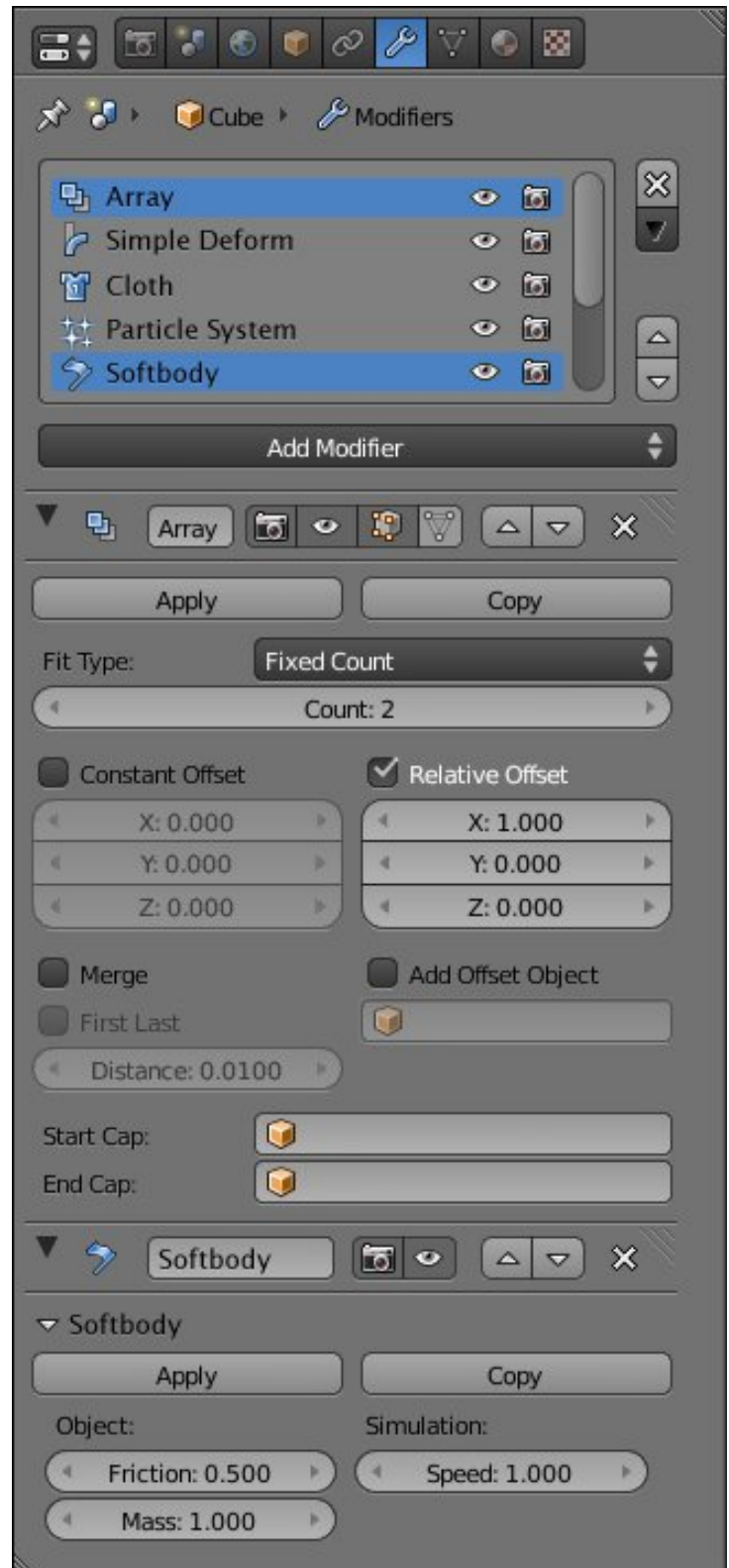


Fig 11: Modifiers stack shown without surrounding frames

## ***And Finally...***

Though Blender 2.5 is quickly approaching a point of stability in its user interface, with tutorials already beginning to surface on the internet demonstrating its new ui, there is still room for improvement.

The author of this document proposes that the redesigned modifiers panel presented herein would provide further organization and coherence to the current modifier stack. Furthermore the improvements presented in this proposal would provide the ability to fully integrate the particle and physics modifiers into the modifiers panel. This unification would provide the benefits of greater consistency in how modifiers are accessed, eliminate the need to cluster the physics modifiers together, and free up space for future tabs in the properties panel.

## ***Current Modifier Stack Pros And Cons***

### ***Pros:***

*1. Convenient access to all modifiers applied to an object with only scrolling needed to view them.*

### ***Cons:***

*1. Becomes hard to navigate and reorder modifiers after several have been applied.*

*2. Impractical for displaying modifiers with numerous settings when mutiple modifiers are being applied.*

*3. Particle and physics modifiers are treated inconsistently from others do to item 2.*

*4. Particle and physics modifiers' relationship to modifier stack can be confusing to users do to the item 3.*

*5. Physics panel is visually crowded, hard to navigate, and will likely only get worse in the future.*

*6. Additonal tabs in the properties panel are currently necessary for particles and physics modifiers do to item 2.*



## **Redesigned Modifier Stack Pros And Cons**

### *Pros:*

- 1. Easy to navigate, reorder and delete modifiers.*
- 2. Ability to easily copy, paste, and duplicate multiple modifiers at once.*
- 3. Clearly shows what modifiers are applied and in what order at a glance.*
- 4. Allows user to view modifiers individually or in multiples of their choosing.*
- 5. Becomes practical to display modifiers with numerous settings such as current particle and physics modifiers do to item 4.*
- 6. Particle and physics modifiers can be treated consistently with other modifiers do to item 5.*
- 7. Relationship of particle and physics modifiers with other modifiers is no longer confusing do to item 6.*
- 8. Eliminates need for additional tabs within the properties panel do to item 5.*

### *Cons:*

- 1. User must first select multiple modifiers from list to view their settings at the same time when more than one modifier is applied.*