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Subject: DeepCopyOption do\_clone inconsistency?  
Posted by [kohait00](#) on Tue, 14 May 2019 08:16:52 GMT  
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Hey guys

I've been away for quite some years (due to work changes) but never forgot about U++, and recently decided to give it new spin and revive some 'old' and never finished projects. I practically slept through the whole C++11 refactoring of U++ and need to do a fresh start.. good for me, I get to dive in the code again :p yeah!!

Speaking of which: I stumbled across the following

Topt.h

```
template <class T, class B = EmptyClass>
class WithClone : public B {
public:
    friend T do_clone(const T& src) { T c(src, 1); return c; }
};
```

```
template <class T, class B = EmptyClass>
class DeepCopyOption : public B {
public:
#ifdef DEPRECATED
    friend T& operator<<=(T& dest, const T& src)
    { if(&dest != &src) { (&dest)->~T(); ::new(&dest) T(src, 1); } return dest; }
#endif
    friend T do_clone(const T& src) { T c(src, 1); return c; }
};
```

```
template <class T, class B = EmptyClass>
class MoveableAndDeepCopyOption : public B {
    friend void AssertMoveable0(T *) {}
#ifdef DEPRECATED
    friend T& operator<<=(T& dest, const T& src)
    { if(&dest != &src) { (&dest)->~T(); ::new(&dest) T(src, 1); } return dest; }
#endif
    friend T clone(const T& src) { T c(src, 1); return c; } <<<< SHOULD'N'T THIS BE do_clone?
};
```

the changes were introduced back in 2016 in this commit

<https://github.com/ultimatepp/mirror/commit/f501894b10b42d9b1a35950089818607d98c4d4b>

If I get it right, the do\_clone is the final function that is addressed by the clone() (pick counterpart).

do\_clone could be 'reimplemented' with a specific template instantiation.  
clone is used throughout the code in the containers as 'higher level' clone function that maps to do\_clone.

Nevertheless, MoveableAndDeepCopyOption is using clone(), instead of do\_clone() like the other classes.

Isn't that it should be uniformly either clone() or do\_clone() for all of them?

My bet: do\_clone() should be used in MoveableAndDeepCopyOption as well.. as it maps to the Deep copy constructor instead of the default copy constructor.

Can anyone point out what the do\_clone() is about if I am wrong and missing something?

PS: I try to get through bazaar and get some of those old packages of mine to work again. Many have been ported by others, thanks guys :)