

# Implementing WordPress for Sysadmins

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PICC 2012



Who...What...Why?



## Who...What...Why?



<http://xkcd.com/705/>

## Who...What...Why?



Source: <http://www.rijksmuseum.nl/collectie/RP-P-1911-3392/atlas>

## WordPress vs. X

- HTML
- Joomla
- Drupal
- ..and...and...and...



**HOSTING**

Actually this is just a place for my stuff, ya know? That's all, a little place for my stuff. That's all I want, that's all you need in life, is a little place for your stuff, ya know? I can see it on your table, everybody's got a little place for their stuff. This is my stuff, that's your stuff, that'll be his stuff over there. That's all you need in life, a little place for your stuff.

–George Carlin

## Remote Server Hosting

- In-house
- VPS
- Shared
- Targeted Shared/SaaS
  - wordpress.com
  - page.ly
  - wpengine.com



## In-House Tradeoffs

### Plus

- (maybe) control horizontal & vertical
  - Debugging
  - PHP Opcode Cache (APC)
- (easier) authentication schemes

### Minus

- OS & HW is someone else's problem
- Own private shared hosting
- Local environment may rev slower
- CDN anyway?

Have a very careful talk with your other internal resources first.

## VPS Trade-offs

### Plus

- Control most things (including how much gas, APC, etc.)
- {insert standard cloud shpiel}

### Minus

- {insert standard anti-cloud shpiel}
- OS-level stuff may be your problem again
- Authentication questions
- WP scaling non-trivial

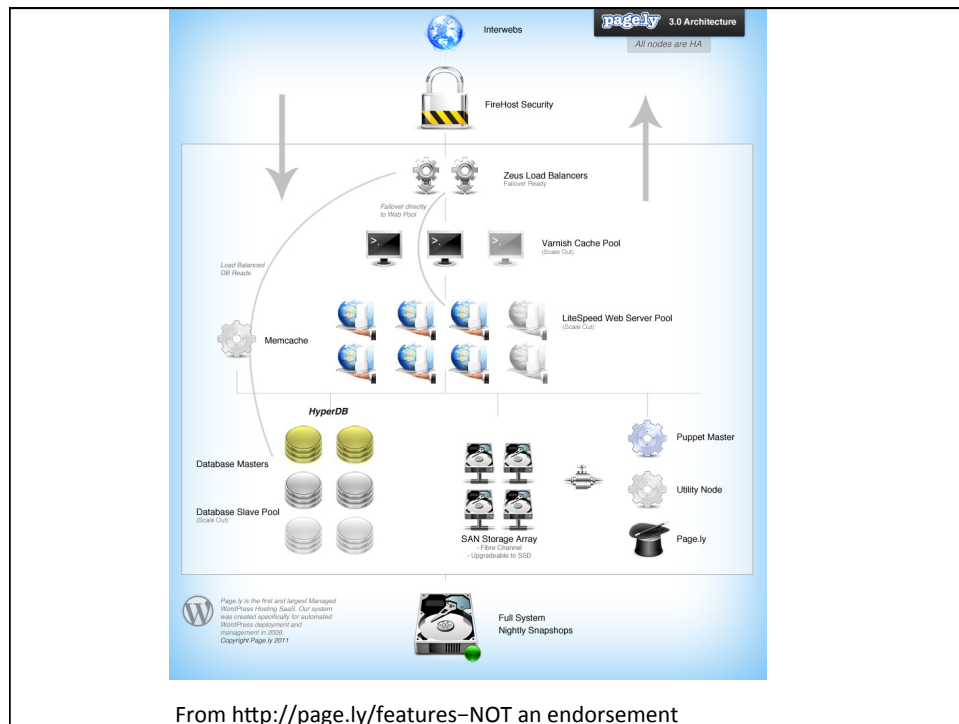
## Choosing Shared Hosting

- Avoid GoDaddy®.com like the plague
- Look for:
  - Server choices
  - PHP version (and config info, like memory size)
  - MySQL version
  - SSH access
  - Auto-setup (but don't use)
  - Posts in help forum
  - Mention in common theme/plugin forums



## Thoughts on SaaS Offerings

- Level of support knowledge is great (incl. core developers, security issues)
- Lots of optimization already done for you
- Have serious PR skin in the game re: upgrades, security, reliability
- Lack of customization (plugins/themes) depending on provider
  - may be construed as a good thing



## Local Hosting



## Local Hosting Flavors

- Native OS-based
- Self-contained server (\*MP)
- VM-based (vagrant)
- More when we talk about dev practices



## WordPress on Native Mac OS X



<http://soderlind.no/archives/2011/08/26/running-wordpress-locally-on-mac-os-x-lion/>

# WordPress on Windows



<http://www.microsoft.com/web/wordpress>

## Self-Contained Servers



[www.mamp.info](http://www.mamp.info)



[www.apachefriends.org](http://www.apachefriends.org)



[www.instantwp.com](http://www.instantwp.com)



[bitnami.org/stack/wordpress](http://bitnami.org/stack/wordpress)



[serverpress.com](http://serverpress.com)

## VM-based



vagrantup.com

## A Few Vagrant/WordPress Resources

- [github.com/developish/vagrant-wordpress](https://github.com/developish/vagrant-wordpress)
- [blairwilliams.com/2012/04/12/run-wordpress-locally-with-vagrant/](http://blairwilliams.com/2012/04/12/run-wordpress-locally-with-vagrant/)
- [www.paulcarvill.com/2011/09/wordpress-theming-without-installing-wordpress-mysql-or-php/](http://www.paulcarvill.com/2011/09/wordpress-theming-without-installing-wordpress-mysql-or-php/)
- [www.youtube.com/watch?v=yJAfnMZTfdI](https://www.youtube.com/watch?v=yJAfnMZTfdI)

## **CUSTOMIZING AND EXPANDING WORDPRESS**

### WordPress Customization

- Menus
- Themes
- Plugins
- Widgets
- CPT/CT
- Shortcodes
- PHP



## Integration

- Internal
  - Multisite, internal linking, snippets, PODS
- External
  - Plugins
  - API
  - IFrames, etc. (Easy iFrame Loader)
- Authentication & authorization



## What's a Theme

- “A Word that works together to create a visual interface for a website”





## Kinds of Themes

- Free vs. Commercial/Premium
- Marketplace
- Dev Frameworks/Child
- Option Frameworks

## Well-Known Frameworks

### **Dev Frameworks**

- Canvas
- Catalyst
- Genesis
- Hybrid
- Thematic
- Themify
- Elemental
- Twitter Bootstrap

### **Option Frameworks**

- Ashford
- Thesis
- Builder
- Headway
- Carrington Build
- iTheme's Loopbuddy

## A Few Commercial Theme Providers with Good Reputations

- StudioPress (Genesis)
- ElegantThemes
- Press75
- The Theme Foundary
- Pro Theme Design (Elemental)
- Obox Design
- Organic Themes
- Theme Trust
- Woo Themes
- iThemes
- ThemeHybrid (Hybrid)
- Graph Paper Press
- Crowd Favorite

[themesaper.com/jumpstart](http://themesaper.com/jumpstart)

## What's a Plugin?

- "Plugin  
extend  
of Wor



## What's A Widget?

- “WordPress widgets are small pieces of code that add various features to your site, such as a category list, a recent posts list, a search box, etc. They are easy to use and can be added to the sidebar, footer, or other areas of your site. They are also easy to customize and can be used to create a unique look for your site. WordPress widgets are a great way to add functionality to your site without having to write code. They are also a great way to add a personal touch to your site. WordPress widgets are a great way to add functionality to your site without having to write code. They are also a great way to add a personal touch to your site.”



## Plugins

- Commercial/Premium vs. Free
- Sources:
  - [wordpress.org/extend/plugins/](http://wordpress.org/extend/plugins/)
  - Author websites
  - [premium.wpmudev.org](http://premium.wpmudev.org)
  - [wpplugins.com](http://wpplugins.com)
  - [codecanyon.net/category/wordpress](http://codecanyon.net/category/wordpress)

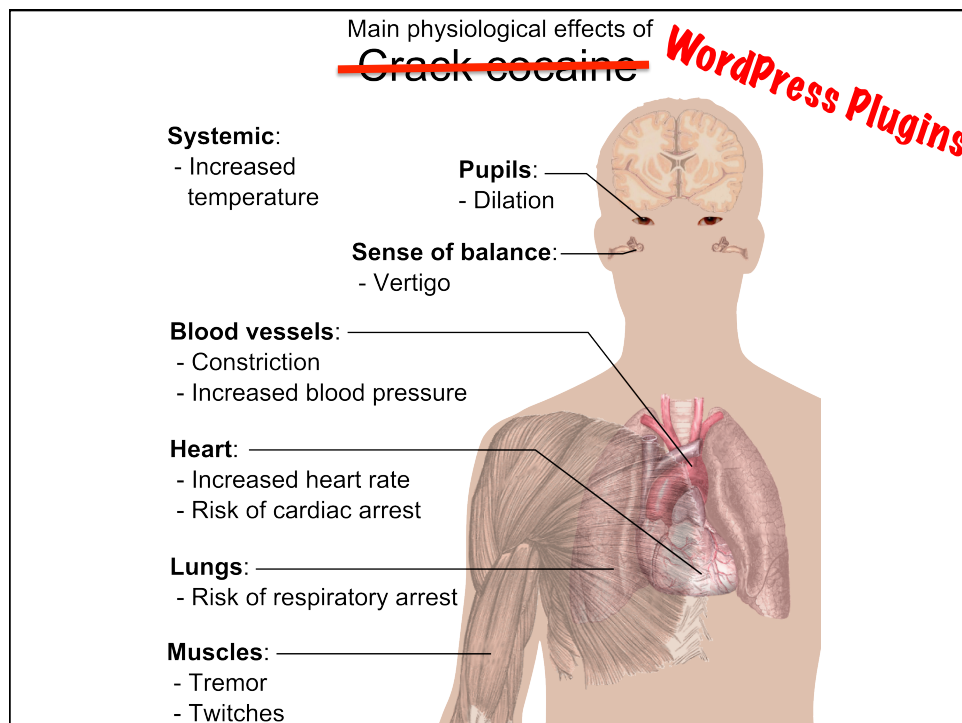
# **Danger!**



Previous slide

## **In Memory of Dick Tufeld**

December 11, 1926 – January 22, 2012



## A Simple and Convenient Synthesis of Pseudoephedrine From *N*-Methylamphetamine

O. Hai,<sup>a,\*</sup> and I. B. Hakkenshit<sup>a,b</sup>

Received 12th December 2011, Accepted 21st January 2012

First published on the web 23rd February 2012

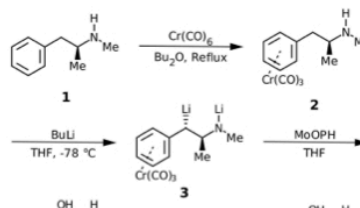
DOI: 10.1039/c1ay00000f000a

A novel and straightforward synthesis of pseudoephedrine from readily available *N*-methylamphetamine is presented. This practical synthesis is expected to be a disruptive technology replacing the need to find an open pharmacy.

Pseudoephedrine, active ingredient of Sudafed®, has long been the most popular nasal decongestant in the United States due to its effectiveness and relatively mild side effects [1]. In recent years it has become increasingly difficult to obtain pseudoephedrine in many states because of its use as a precursor for the illegal drug *N*-methylamphetamine (also known under various names including crystal meth, meth, ice, etc.) [1,2]. While in the past many stores were able to sell pseudoephedrine, new laws in the United States have restricted sales to pharmacies, with the medicine kept behind the counter. The pharmacies require signatures and examination of government issued ID in order to purchase pseudoephedrine. Because the hours of availability of such pharmacies are often limited, it would be of great interest to have a simple synthesis of pseudoephedrine from reagents which can be more readily procured.

A quick search of several neighborhoods of the United States revealed that while pseudoephedrine is difficult to obtain, *N*-methylamphetamine can be procured at almost any

chemicals, relative cost is not strongly correlated to sample quality. We therefore found it necessary to purify the starting material before use. This may be accomplished by precipitating the amphetamine from isopropanol with HCl followed by deprotonation with sodium hydroxide and extraction into chloroform, which after removal of the solvent in vacuo yields *N*-methylamphetamine, **1**. In the majority of the samples obtained for this study, **1** was greater than 95% enantiomerically pure, with the *S* enantiomer being the major isomer present. This is consistent with reduction of commercially available ephedrine or pseudoephedrine as the origin of the casually procured material used in this study.



## Plugins I Always Use

- BackupBuddy (\$)
- Enable Media Replace
- Google XML Sitemaps (Better WordPress Google XML Sitemaps)
- Gravity Forms (\$)
- JF3 Maintenance Redirect
- Page Comments Off Please
- W3 Total Cache

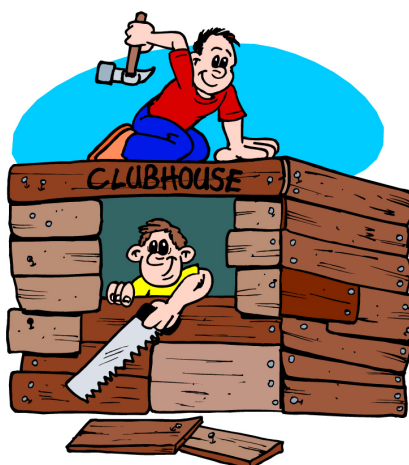
## Other plugins I Often Use

- Broken Link Checker
- CMS Tree Page View
- Google Analyticator
- MapPress Easy Google Maps
- Members
- Peter's Login Redirect
- Redirection/Simple 301 Redirects
- Simple History
- Update Notifier
- WP-Table Reloaded
- Widget Logic

Missing: email obfuscator


## Members/Role Scoper (Press Permit)

- Capabilities (built-in + additional)
- Roles (Subscribers, Contributors, Authors, Editors, Administrators, and....)



## Custom Post Types / Custom Taxonomies

- Built In:
  - Post, Page, Attachment, Revision, Nav Menu
  - Categories, Tags, Link Category
- But why not:
  - Product, Event, Movie, Store
  - Products, Events, Movies, Stores (.../products/X)
- Either PHP code or plugins
  - Custom Post Type UI
  - More Types + More Taxonomies



### Create New Custom Post Type or Taxonomy

If you are unfamiliar with the options below only fill out the **Post Type Name** and **Label** fields and check which meta boxes to support. The other settings are set to the most common defaults for custom post types.

Post Type Name \*  ? (e.g. movies)

Label  ? (e.g. Movies)

Singular Label  ? (e.g. Movie)

Description

[Advanced Label Options](#) · [Advanced Options](#)

If you are unfamiliar with the options below only fill out the **Taxonomy Name** and **Post Type Name** fields. The other settings are set to the most common defaults for custom taxonomies.

Taxonomy Name \*  ? (e.g. actors)

Label  ? (e.g. Actors)

Singular Label  ? (e.g. Actor)

Attach to Post Type \*

☐ Posts

☐ Pages

☐ Zombies

☒ Movies

[Advanced Label Options](#) · [Advanced Options](#)

Hierarchical ☐ ? (default: False)

Show UI ☐ ? (default: True)

Query Var ☐ ? (default: True)

Rewrite ☐ ? (default: True)

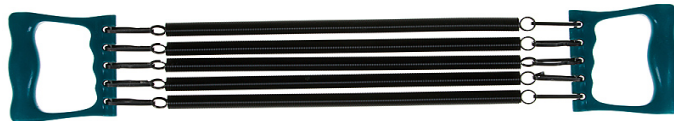
Custom Rewrite Slug  ? (default: taxonomy name)

[Create Custom Taxonomy](#)



## Further CMS Expansion

- Custom Fields
  - More fields
  - Meta Box
- PODS



## Shortcodes and PHP

- Plugins (and PHP) can add shortcodes
  - Largely for use in page/post content
  - Can be used sometimes in widgets
  - “put this thing there”
- Write custom PHP
  - Actions
  - Filters
  - Often better to put it in plugin form

```

<?php
/*
 * Plugin Name: Password Reset Removed
 * Description: Removes the ability
for non admin users to change/reset
their passwords.
 * Version: 1.0
 * Author: Derek Herman
 * Author URI: http://valendesigns.com
 * from: http://www.wpbeginner.com/wp-
tutorials/how-to-remove-the-password-
reset-change-option-from-wordpress/
 */

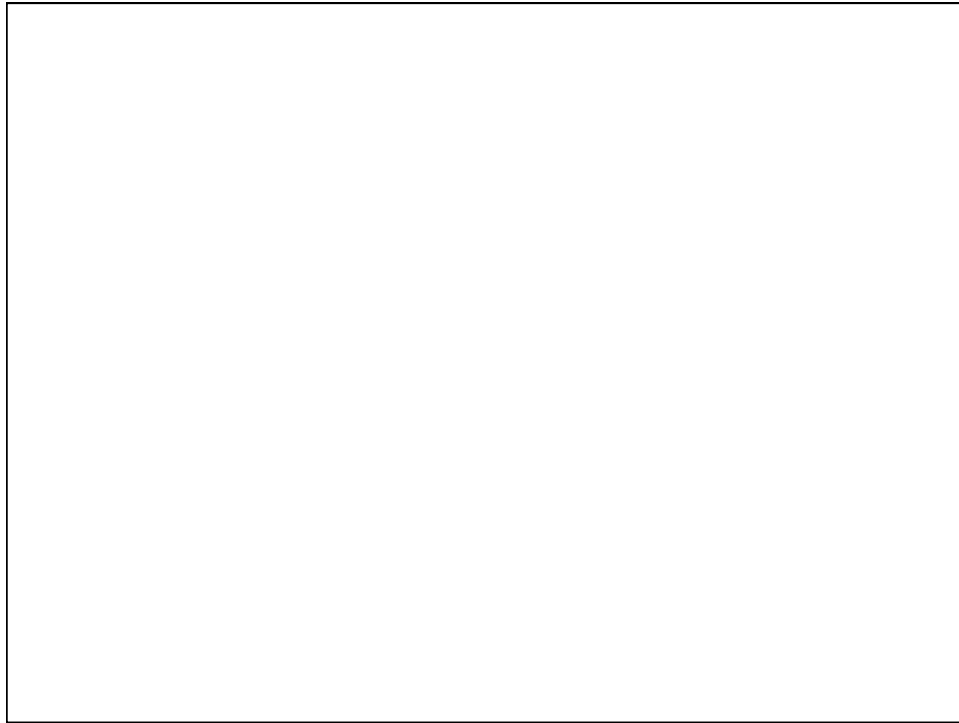
```

```

function band_url_year() {
    $customField = get_post_custom_values("band_url");
    if (isset($customField[0])) {
        echo "<a class='band_website' href='\".$customField[0].\"'
target='_blank'>Band website</a>";
    }
    $customField = get_post_custom_values("honk_year");
    if (isset($customField[0])) {
        sort($customField);
        $customField = implode(" ", $customField);
        echo "<br>At HONK! in $customField.";
    }
}

remove_action('thesis_hook_before_header', 'thesis_nav_menu');
add_action('thesis_hook_after_header', 'thesis_nav_menu');
add_action('thesis_hook_after_headline', 'band_url_year');
add_filter("gform_tabindex_3", create_function("", "return 15;"));

```



## WordPress Debugging Tips

- wp-config.php
- WordPress debug plugins
- PHP debugging
  - var\_dump/print\_r
  - XDebug (e.g. with NetBeans)
- Firebug/Webkit inspector

## WordPress Debugging Tips: wp-config.php

```
@ini_set( 'display_errors' , 0);  
define( 'WP_DEBUG' , true);  
define( 'WP_DEBUG_DISPLAY' , false);  
define( 'WP_DEBUG_LOG' , true);  
# define('SCRIPT_DEBUG',true);  
# define('SAVEQUERIES',true);  
    # $wpdb->queries
```

```
error_log ('hi there!');
```

<http://www.slideshare.net/andrewnacin/wordcamp-sf-2011-debugging-in-wordpress>  
<http://nacin.com/2010/04/23/5-ways-to-debug-wordpress/>

## WordPress Debugging Tips: Plugins

- Debug Bar/Debug Bar \* (e.g. Console)
- WordPress Console
  - <http://vimeo.com/5300607>
- wp pear debug
- WordPress FirePHP Debugger (\$)
- WP Tuner
- Core Control

**WORDPRESS DEVOPS**

**WORDPRESS DEVOPS**

## Dev Local, Deploy Remote

- Local server
- Challenges:
  - Not just file sync (plugins, themes, functions, CSS)
  - Database sync
  - Install-relative
- Remote can be dev/testing/prod



## Dev Local, Deploy Remote

- Solution #1:  
**Wholesale Clones**
- Backup Buddy
- Duplicator
- Quick Deploy from DesktopServer
- ...etc.

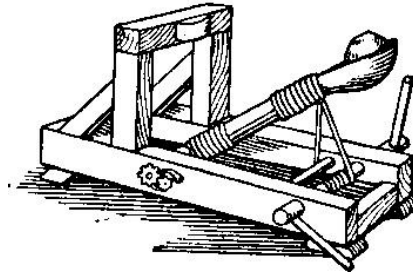


## Dev Local, Deploy Remote

- Solution #2:

### Smart Merges

- Ramp

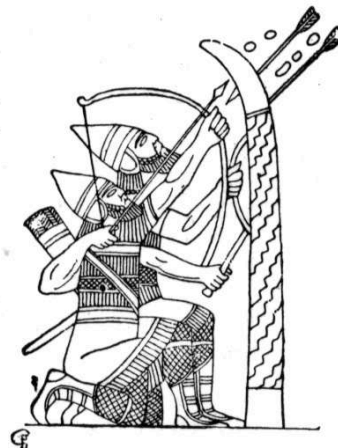


## Dev Local, Deploy Remote

- Solution #3:

### Homebrew Hybrid

- Rsync/SCS (SVN/Git) for file sync
- Database backups/imports
- Reconciliation scripts



Bonus: <http://www.ozerov.de/bigdump/>

## Dev Remote, Deploy Remote 1

- [markmaunder.com/2011/08/19/deploymint-a-staging-and-deployment-system-for-wordpress/](http://markmaunder.com/2011/08/19/deploymint-a-staging-and-deployment-system-for-wordpress/)
- [code.google.com/p/deploymint/](http://code.google.com/p/deploymint/)



## Dev Remote, Deploy Remote 2

- Theme development
- [archonic.com/blog/web-mastery/wordpress-staging-in-5-step/](http://archonic.com/blog/web-mastery/wordpress-staging-in-5-step/)





## Two Small Tips

- Cleverness To-Do List plugin
- WP Help plugin



**WORDPRESS DEVOPS**

## Administering Multiple Sites

- [ManageWP.com](#)
- [WPremote.com](#)
- [github.com/88mph/wpadmin](https://github.com/88mph/wpadmin)



## Performance/Scaling

- Easy
  - Cache, Cache, Cache!
    - WP Super Cache, Hyper Cache, W3 Total Cache
  - CDN
    - W3 Total Cache
    - CloudFlare
    - Use Google Libraries
  - Plugins/Theme



## Performance/Scaling

- Harder
  - PHP OpCode Cache (APC)
  - Tune the stack
  - Replace the webserver
    - Lightspeed/Nginx
  - Pull from sub-domains



## Performance/Scaling

- Even Harder
  - Memcached backend
    - Batcached
    - WP-FFPC
  - Reverse Caching Proxy
    - Varnish
      - [github.com/pkhamre/wp-varnish](https://github.com/pkhamre/wp-varnish)
    - Nginx
  - Replace the language
    - [github.com/facebook/hiphop-php/wiki](https://github.com/facebook/hiphop-php/wiki)



<http://www.ewanleith.com/blog/900/10-million-hits-a-day-with-wordpress-using-a-15-server>

## Performance

- Hardest
  - Shard the work
    - Multi-DB
    - SharDB
    - HyperDB



## WordPress Security

- Update!
  - Update Notifier
- Backups!
- Obfuscate!
  - Admin user name
  - Table prefix
  - wp-config.php location
- Encrypt on the Wire!
  - [codex.wordpress.org/Administration\\_Over\\_SSL](http://codex.wordpress.org/Administration_Over_SSL)



[www.slideshare.net/williamsba/wordpress-security-updated](http://www.slideshare.net/williamsba/wordpress-security-updated)

## WordPress Security

- Permit!
  - 0644 files
  - 0755 dirs
- Audit!
  - Security plugins
    - Bulletproof Security
    - WP Security Scan
    - Better WP Security
    - Login Lockdown
    - WordPress File Monitor



[www.slideshare.net/armeda/wordcamp-chicago-2011-wordpress-end-user-security-dre-armeda](http://www.slideshare.net/armeda/wordcamp-chicago-2011-wordpress-end-user-security-dre-armeda)

## QUESTIONS?

## Slides

- [www.otterbook.com/picc2012](http://www.otterbook.com/picc2012)

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