Pugs

Perl 6 For Real

http://pugscode.org/

Autrijus Tang

CUFP 2005, Tallinn

Perl

is ergonomic

PROGRAMMING REPUBLIC OF

PERL

P is for Practical

Manipulexity

&
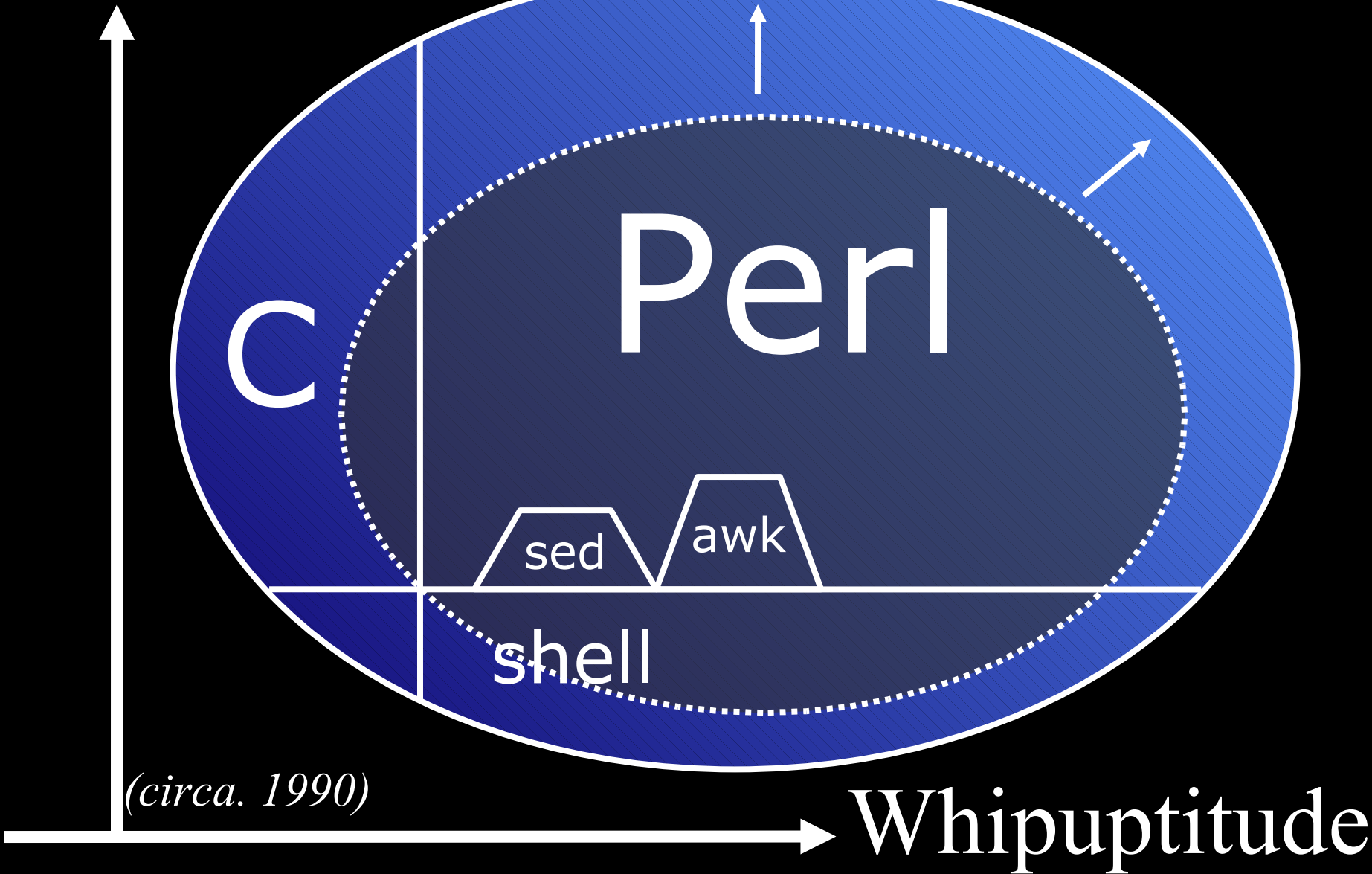
Whipuptitude

Abstraction
$\longrightarrow$ Sexy

Closures
Bless / Tie
BEGIN block

Shorthand $\longrightarrow$ Natural

Regex Contexts
$_ as Topic

Stepping

sideways

CPAN

is versatile

CPAN

Download

MakeMaker

Perl Distribution

Mirrors

CPAN.pm

Download & Installation

Installation

Mirroring

Monitoring

Search Results

Feedback

Users

Mirroring

search &
testers &
RT

Feedback

Master
Server

Authors

Feedback

Other
Sources

Submissions

Backup

backPAN

PAUSE

v0.2 2002-11-18 jhi@cpan.org
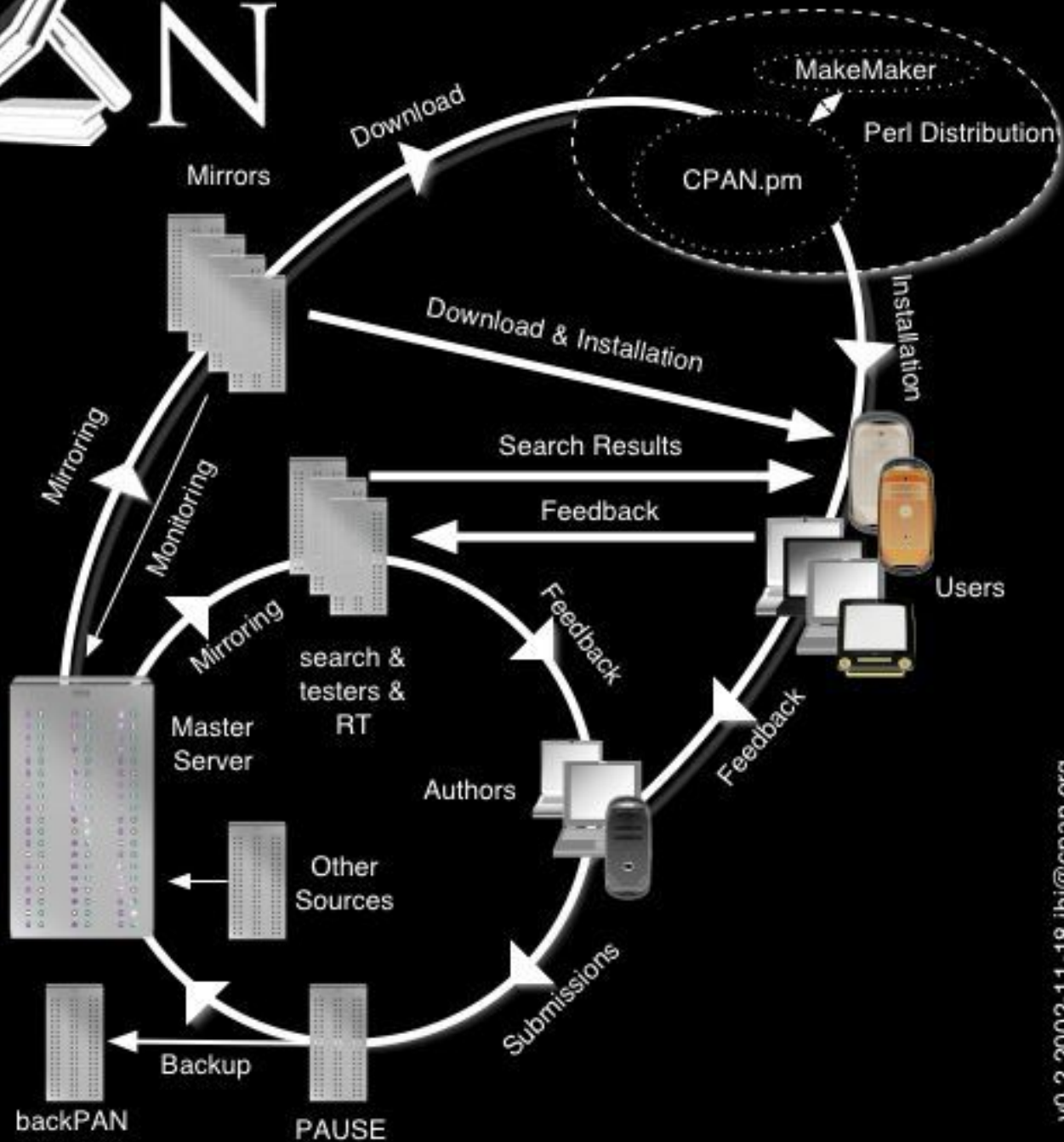
No coding
= Best coding

10^+ years
2500^+ authors
8000^+ modules

Smoke Testing
Issue Tracking
Rating & Discussion
Package Management

Vocabulary
> Syntax

Addictive

Super glue

Jenga Syndrome

Perl 6

is powerful

There's More Than One Way To Screw It Up

Designing

Perl 6

NOT´REALLY®   *A committee - and look at the mess we ended up with*

RFC
Parrot
Apocalypses

Lazy Evaluation

Rebindable Grammar

Dependent Constrained Soft Typing

Traits
Metamodel

MMD on
Type & Value

Syntactic Aspartame without Bloat

```
use perl5:DBI;
use jsan:DOM;
```

…but it stayed

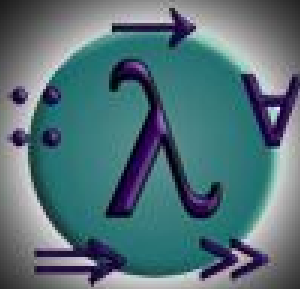Imaginary

for 5 years

Perl6::Rules
P6C/PIR
PGE/PAST

Deadlocked: Insufficient Manipulexity

Haskell

is fantastic

SVK
steals from the best:
Darcs

"The Dream that stuff are made of"

"An *alien* language"

$work in C

Terabytes of AFP

Evil Binary Format

Old AIX machine

Parse::AFP

Prototype in perl5

Leaks horribly

Hard to refactor

OpenAFP.hs

30 days

3000 lines

Highly efficient

touchForeignPtr
unsafeInterleaveIO
WriterT ReaderT IO
3-arg class with Fundeps
DSL, TH, Generics
(Kudos to #haskell)
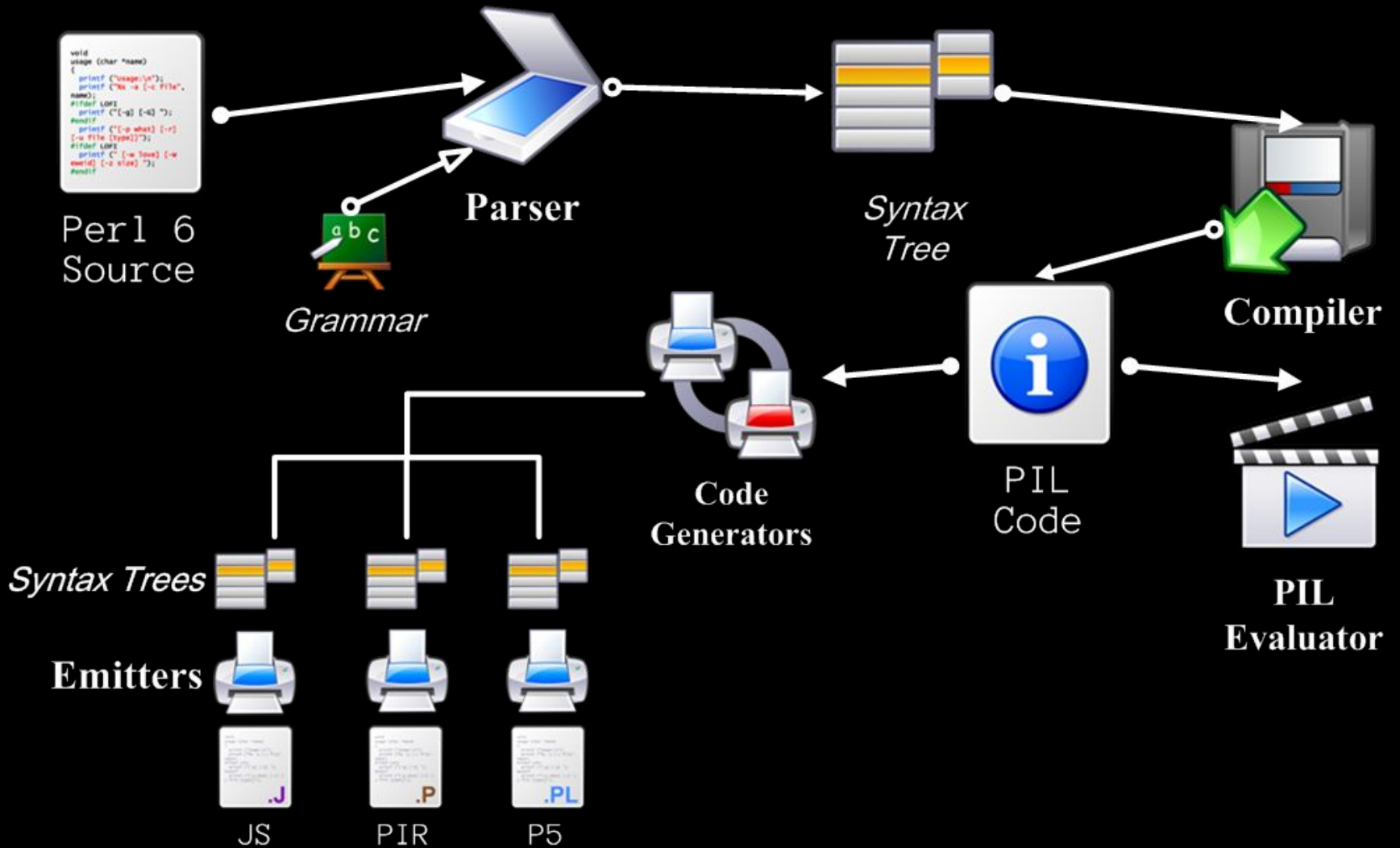
Feb 1ˢᵗ
TaPL arrived
as an *exercise…*

Pugs

is expansive

Perl 6
Source

Parser

Grammar

*Syntax
Tree*

Compiler

**Code
Generators**

PIL
Code

Syntax Trees

Emitters

JS   PIR   P5

**PIL
Evaluator**

Feb 6ᵗʰ
Primitive Interpreter
(1|2)+(3|4)→(4|5|6)
Parsec.Expr

Feb 16th

Imperative runtime

`say "Hello, world"`

ContT ReaderT

Feb 23ʳᵈ

Test.pm runs

```
is(1+1, 2, 'add')
```

10,000 tests today

Mar 19th

PCRE Regex

```
s:p5:g/x/Y/;
```

hsregex

Apr 26th
BEGIN blocks
`use fp;`
unsafePerformIO

May 25th
Embedded Perl5/Parrot

`AddHandler mod_pugs`

FFI & hsc2hs

Jun 24th

Perl6→PIL→Parrot

`make smoke-pir`

GADT & Fundeps

Jul 14ᵗʰ
PIL⟶Perl5
`make smoke-perl5`
DrIFT

Jul 17th

PIL→Javascript

`make smoke-js`

Passes 90% tests now

Aug 1ˢᵗ
Self-hosting Object Model
`class Class is Object;`
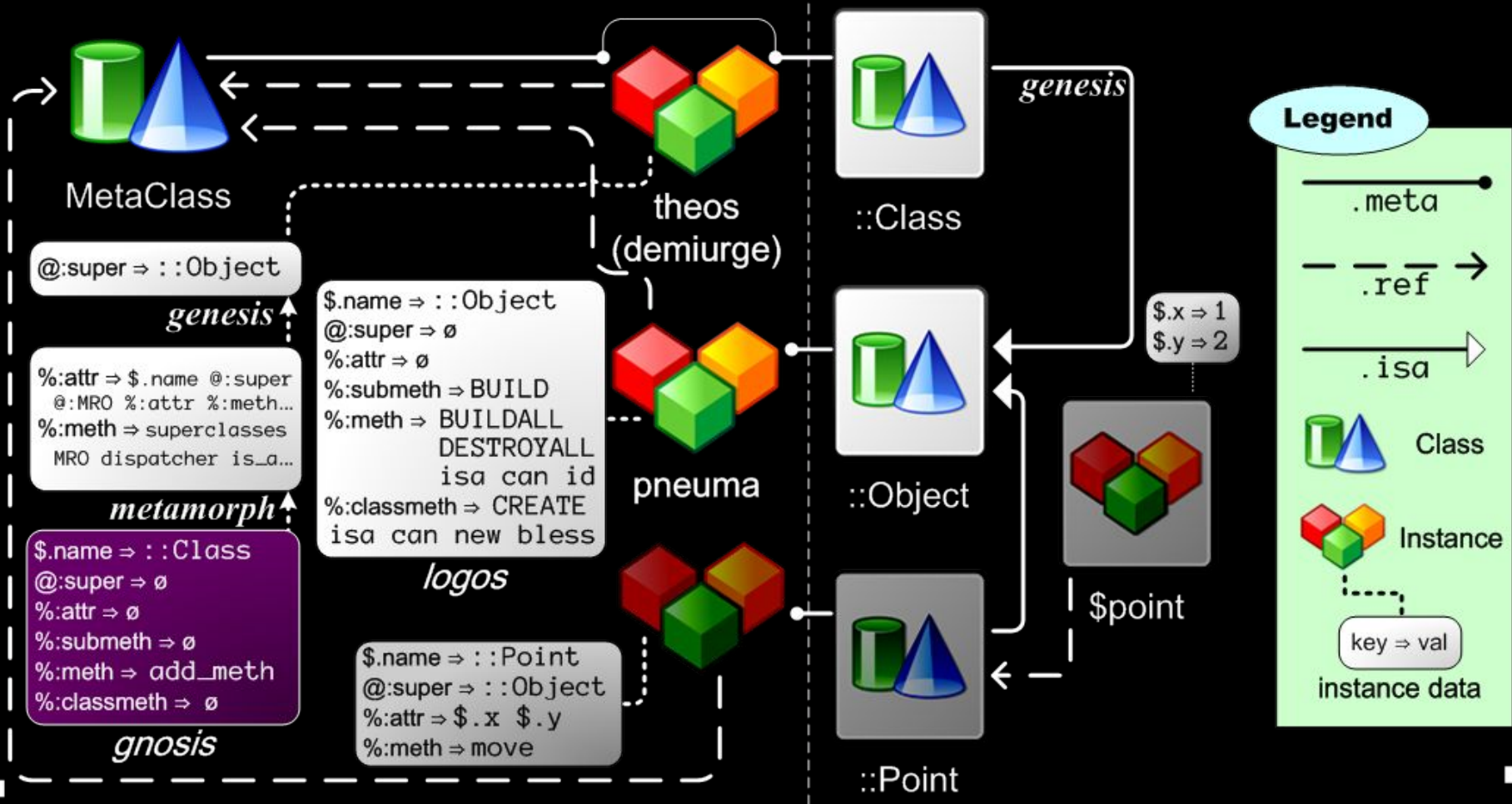## Ported to JS, P5, P6

Sep 21ˢᵗ
Blondie

Type inferencer
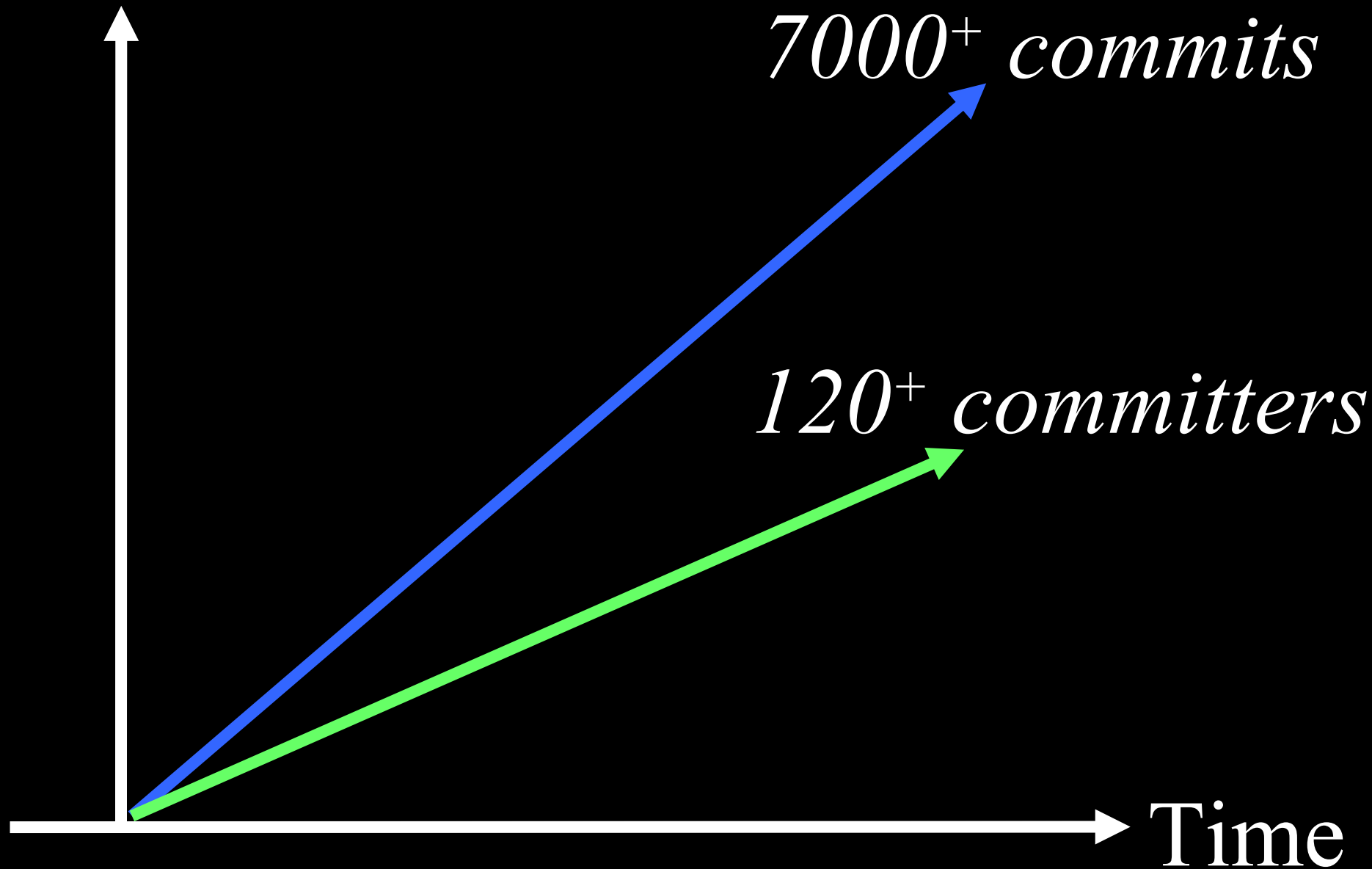Codegen to native C

People

are alive

Metaverse (Runtime Internals)

Universe (User Space)

MetaClass

@:super ⇒ ::Object

genesis

%:attr ⇒ $.name @:super
@:MRO %:attr %:meth...
%:meth ⇒ superclasses
MRO dispatcher is_a...

metamorph

$.name ⇒ ::Class
@:super ⇒ ø
%:attr ⇒ ø
%:submeth ⇒ ø
%:meth ⇒ add_meth
%:classmeth ⇒ ø

gnosis

$.name ⇒ ::Object
@:super ⇒ ø
%:attr ⇒ ø
%:submeth ⇒ BUILD
%:meth ⇒ BUILDALL
        DESTROYALL
        isa can id
%:classmeth ⇒ CREATE
isa can new bless

logos

$.name ⇒ ::Point
@:super ⇒ ::Object
%:attr ⇒ $.x $.y
%:meth ⇒ move

theos
(demiurge)

pneuma

::Class

genesis

::Object

$.x ⇒ 1
$.y ⇒ 2

$point

::Point

-Ofun

Anarchistic Development

@Larry
λcamels

#perl6
p6[cli]
Journals

Poetry
Obfuscation
JAPH

Hackathons

Taipei Vienna
Toronto Tel-Aviv
…and more

Plans
are for real

Perl 6 – (Imaginary) Timeline

Wild enthusiasm

Hey, what was the big deal?

Incomprehension

Despair

Hack, hack, hack...

Perl 6 compiled to perl5

2001   2002   2003   2004   2005   2006   2007

First Apocalypse

Implementation begins
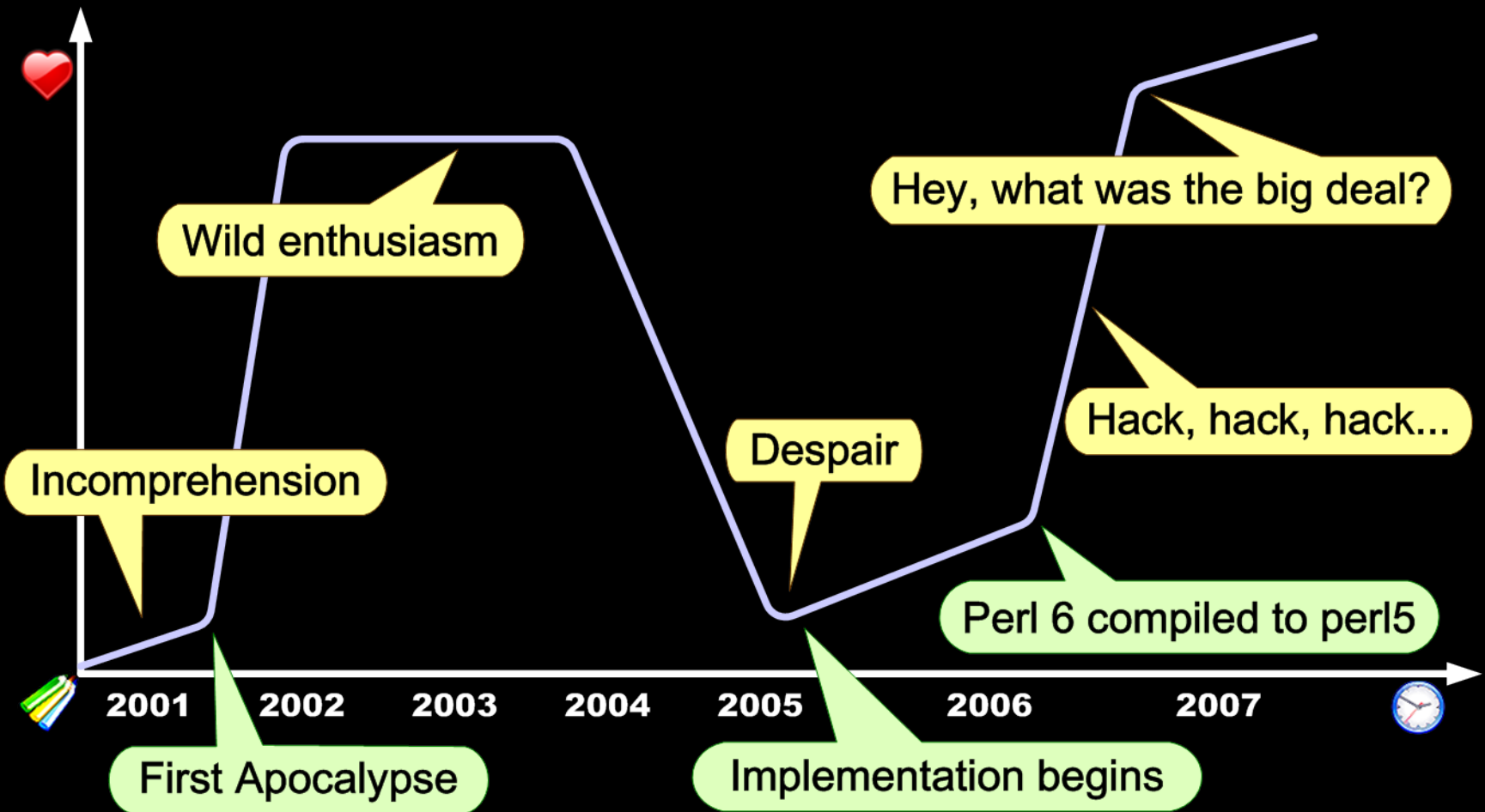
6.0	Initial Release
6.2	Functions
6.28	Objects
6.283	Grammars

<u>6.2831</u>	Types
<u>6.28318</u>	Macros
<u>6.283185</u>	Self-host

use pugs;

import Pugs

JSAN().use('pugs')

#include <pugs.h>

CLR?
JVM?
YARV?

Visiolize
Formalize

Erdösing

Wanderdekade

Feb 1ˢᵗ, 2006

Thank you!

Polymorphic

Existential

Recursive

Lambda

6

Pugscode.org