

Guile's Language Tower

ILC '09

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```
(compile x #:from 'scheme #:to 'value)
```

Scheme

```
(λ (x) (x x))
```

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Scheme

(λ (x) (x x))

GHIL

#<ghil (lambda ...)>

(compile x #:from 'scheme #:to 'value)

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Scheme

$(\lambda (x) (x x))$

GHIL

#<ghil (lambda ...)>

GLIL

#<glil (program ...)>

(compile x #:from 'scheme #:to 'value)

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Scheme

(λ (x) (x x))

GHIL

#<ghil (lambda ...)>

GLIL

#<glil (program ...)>

Assembly

(... (goto/args 1))

(compile x #:from 'scheme #:to 'value)

Scheme

(λ (x) (x x))

GHIL

#<ghil (lambda ...)>

GLIL

#<glil (program ...)>

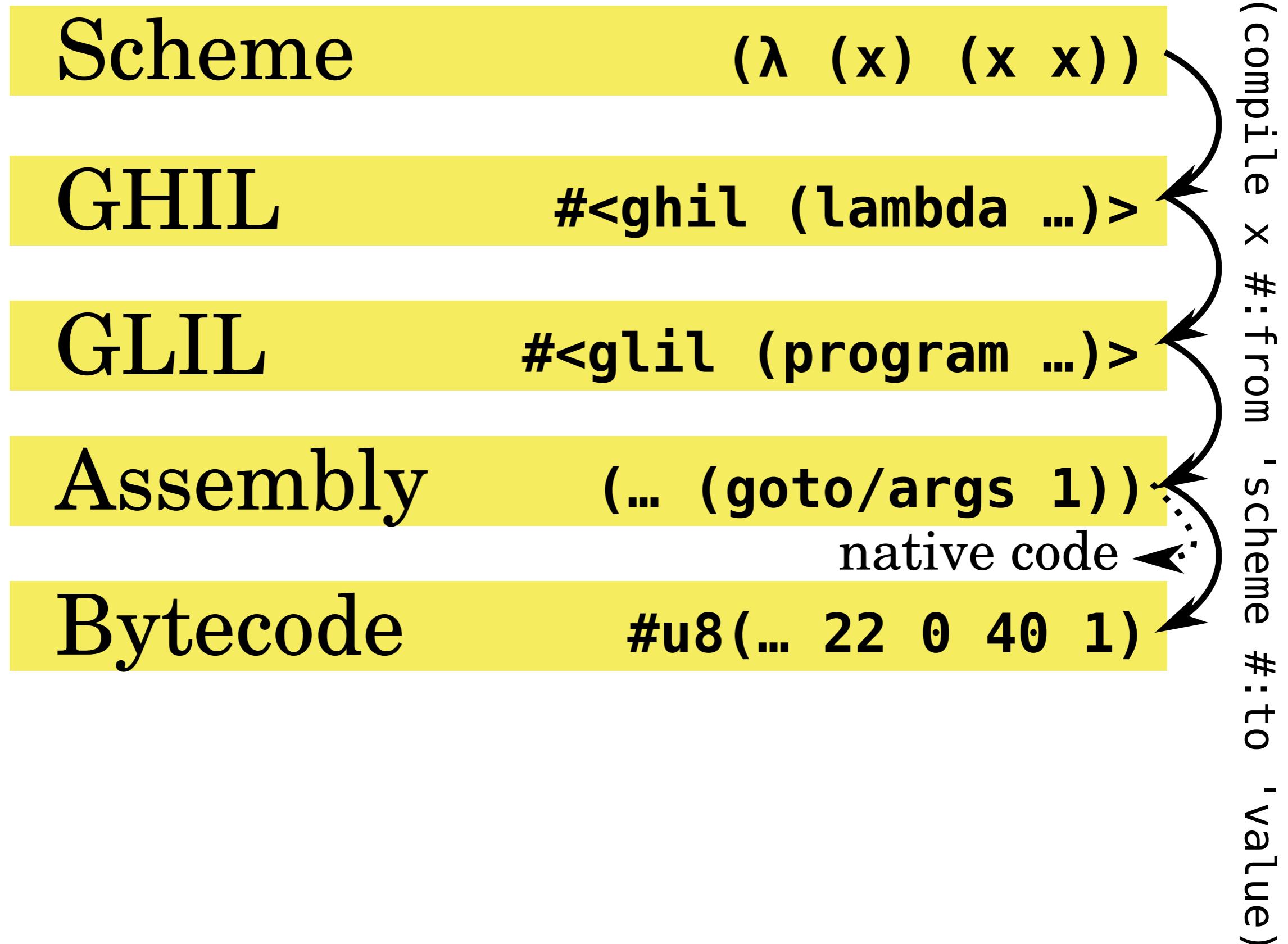
Assembly

(... (goto/args 1))

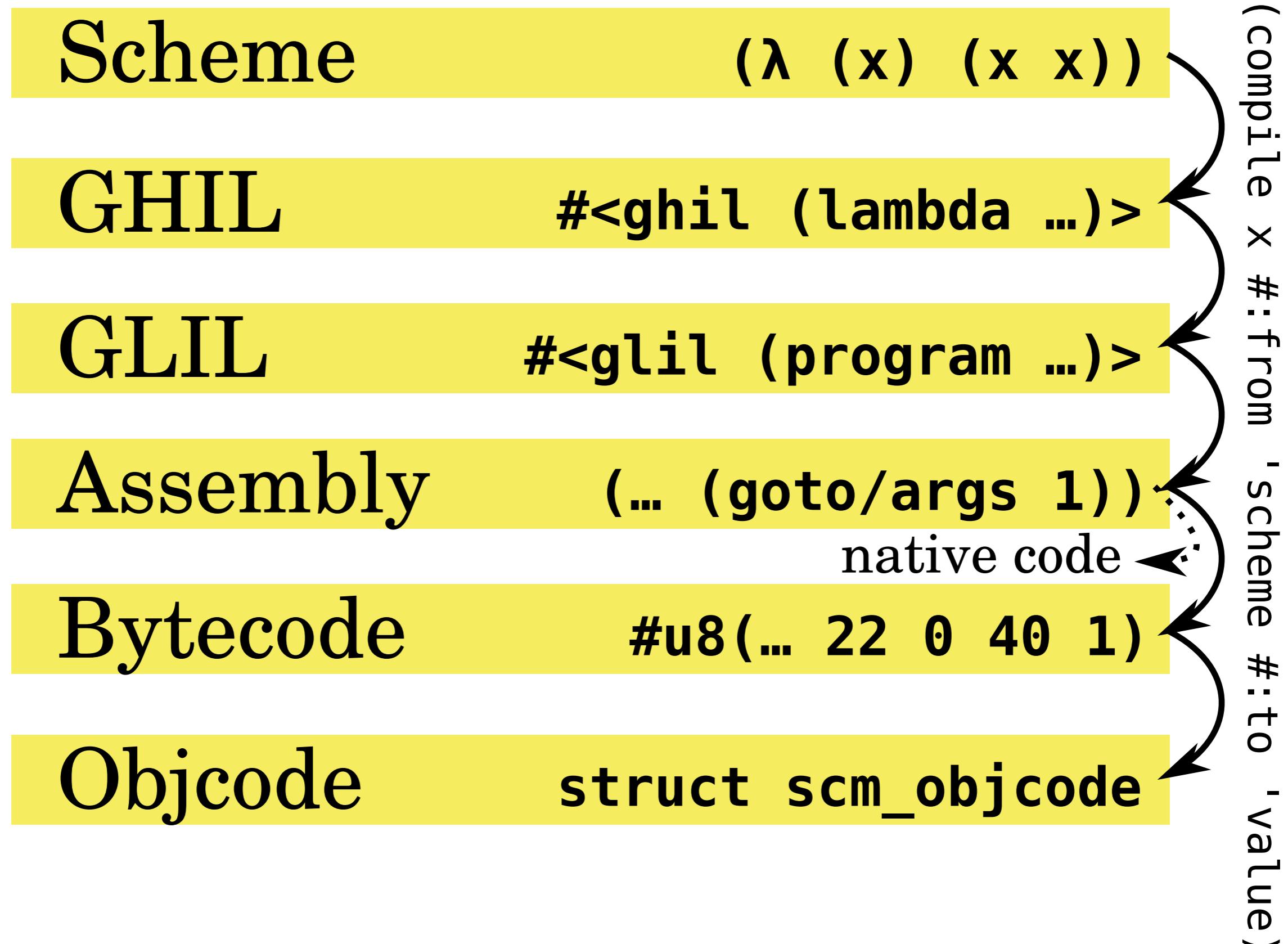
native code

(compile x #:from 'scheme #:to 'value)

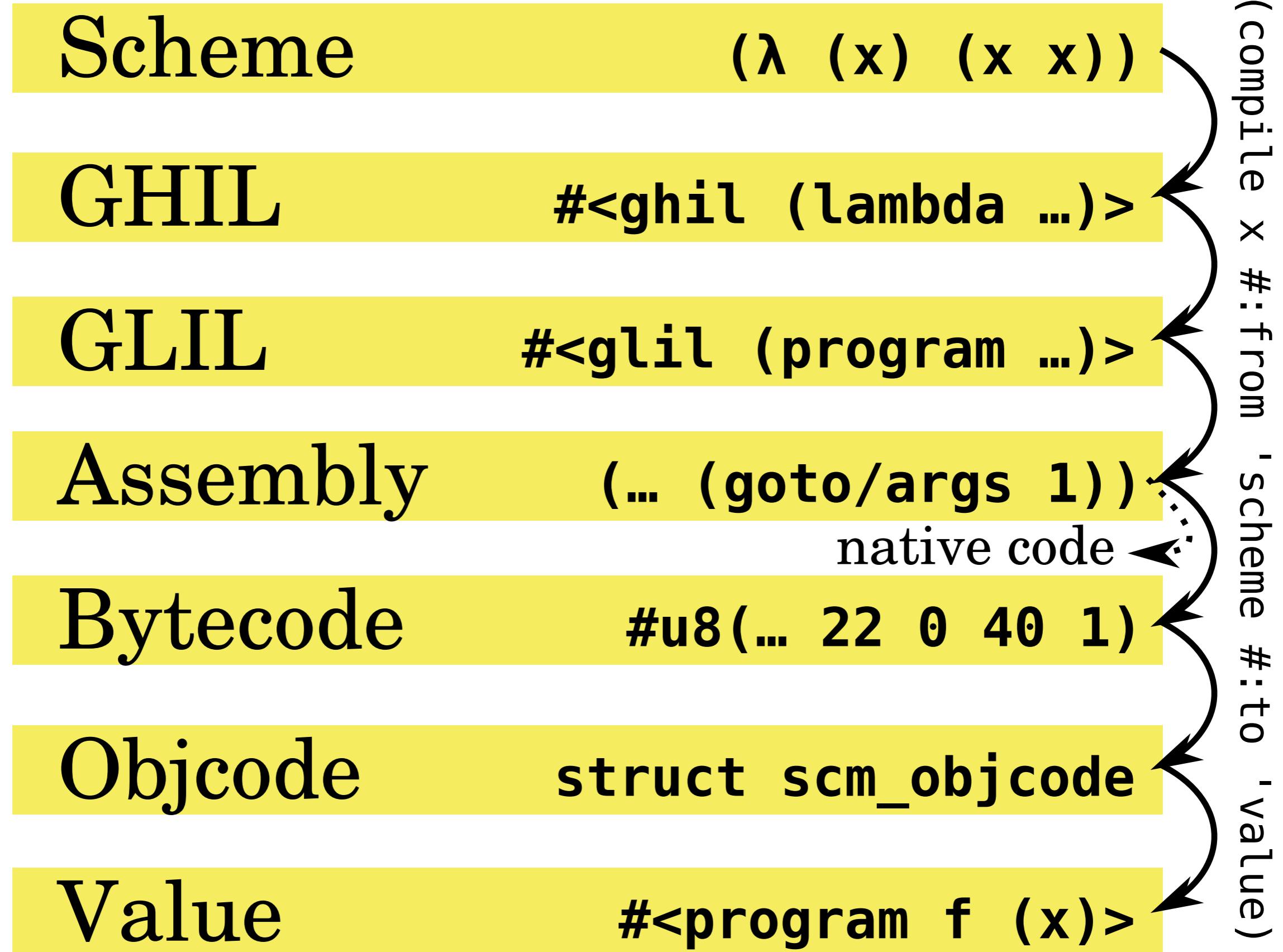
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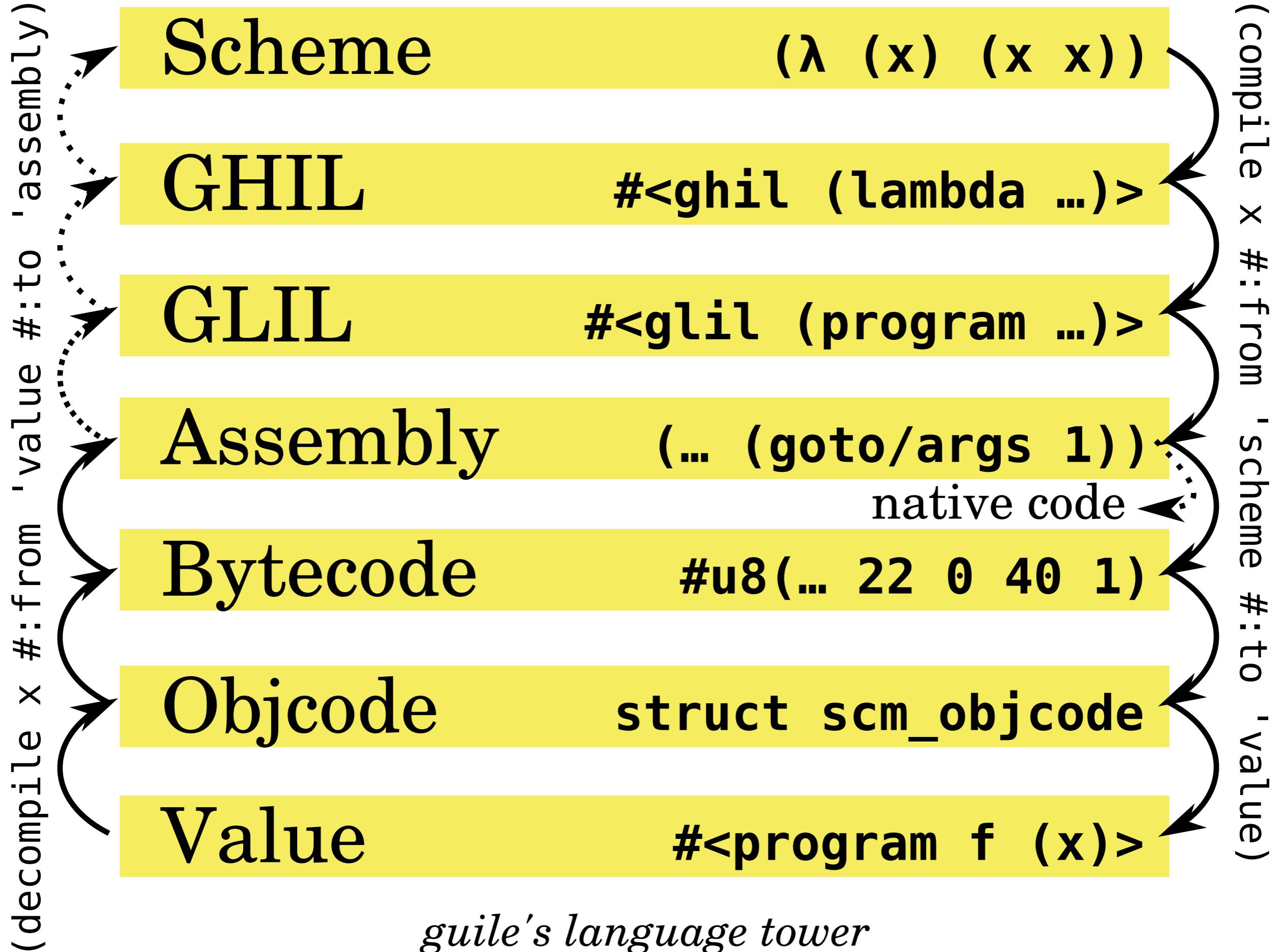
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(decompile x #:from 'value #:to 'assembly)

ECMAScript

```
function (x) {  
    return x(x);  
}
```

GHIL

```
#<ghil (lambda ...)>
```

GLIL

```
#<glil (program ...)>
```

Assembly

```
(... (goto/args 1))
```

native code

Bytecode

```
#u8(... 22 0 40 1)
```

Objcode

```
struct scm_objcode
```

Value

```
#<program f (x)>
```

(compile x #:from 'value #:to 'ecmascript)

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