

To
PLAY

Markup Technologies
as
Nomic Game

Wendell Piez
Mulberry Technologies, Inc.
Balisage: The Markup Conference 2009
August 11, 2009

Backgammon

Go

Poker

Tag

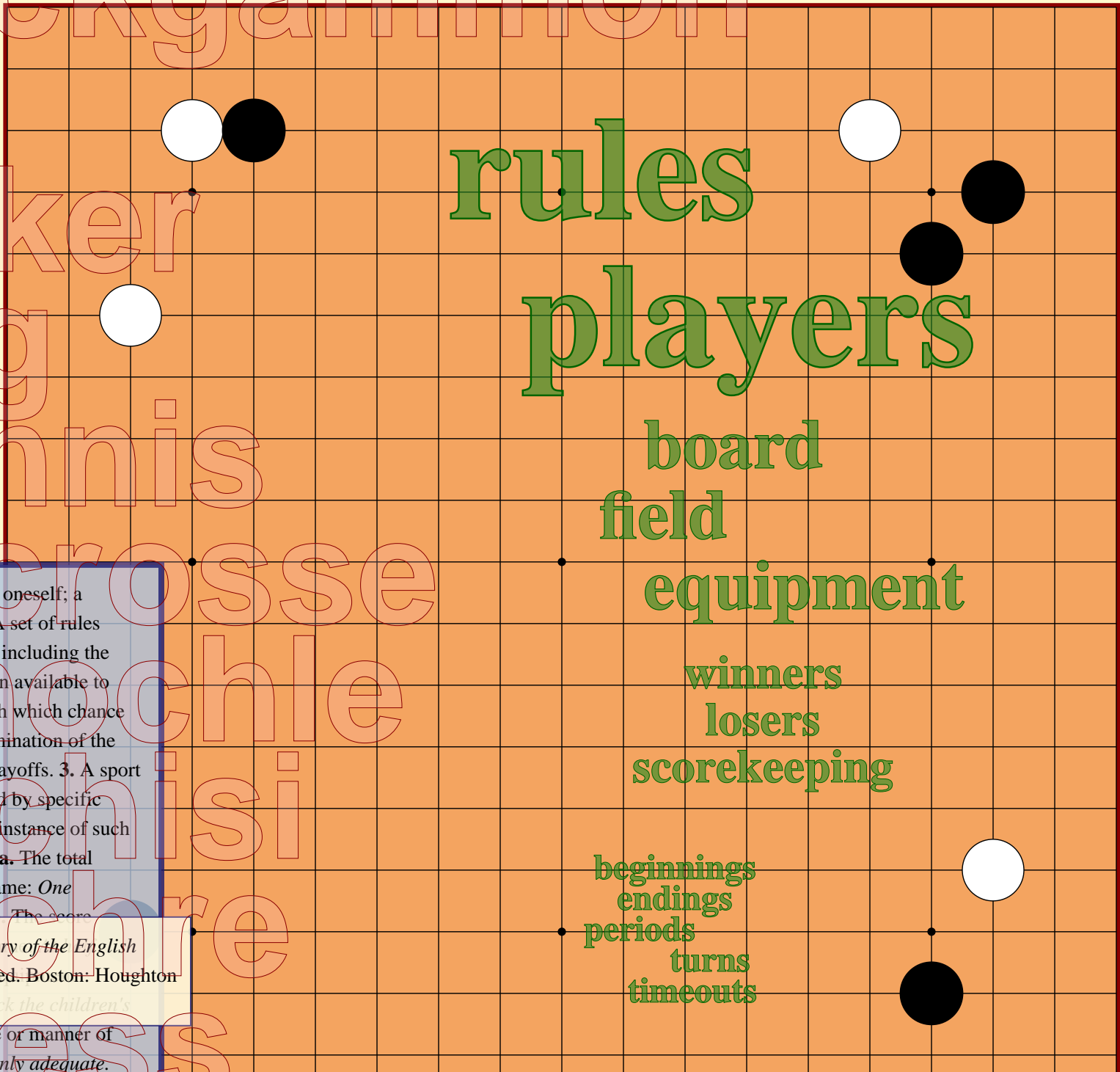
Tennis

Lacrosse

Pinchle

Billiards

Chess



rules

players

board

field

equipment

winners

losers

scorekeeping

beginnings

endings

periods

turns

timeouts

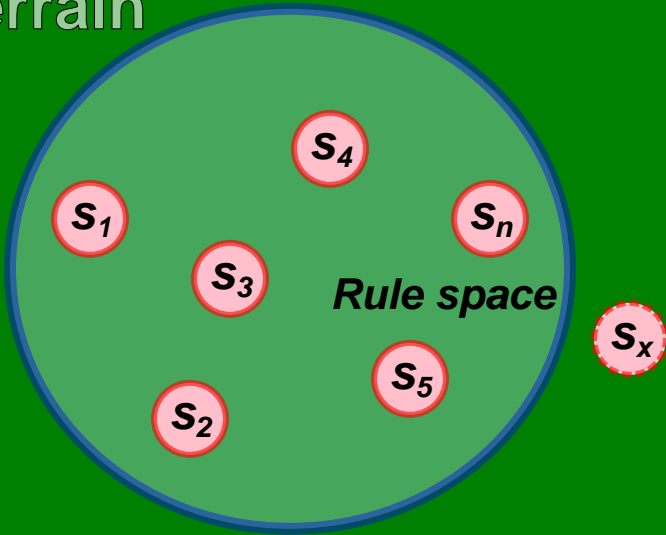
game¹ (gām) *n.* **1.** A way of amusing oneself; a pastime; diversion. **2.** *Mathematics.* A set of rules completely specifying a competition, including the permissible actions of and information available to each participant, the probabilities with which chance events may occur, the criteria for termination of the competition, and the distribution of payoffs. **3.** A sport or other competitive activity governed by specific rules: *the game of tennis.* **4.** A single instance of such an activity: *We lost the first game.* **5. a.** The total number of points required to win a game: *One hundred points is a game in bridge.* **b.** The score accumulated by a player: *He has a game of 100.* *American Heritage Dictionary of the English Language.* William Morris, ed. Boston: Houghton Mifflin Company, 1969. *pack the children's games in the car.* **7.** A particular style or manner of playing a game: *His bridge game is only adequate.*



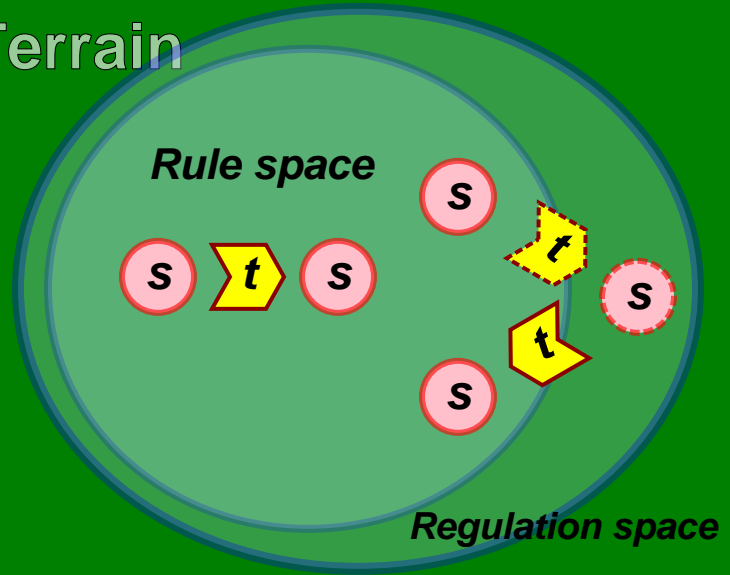
An agreement to play

Miss Tessa and friend play "String"

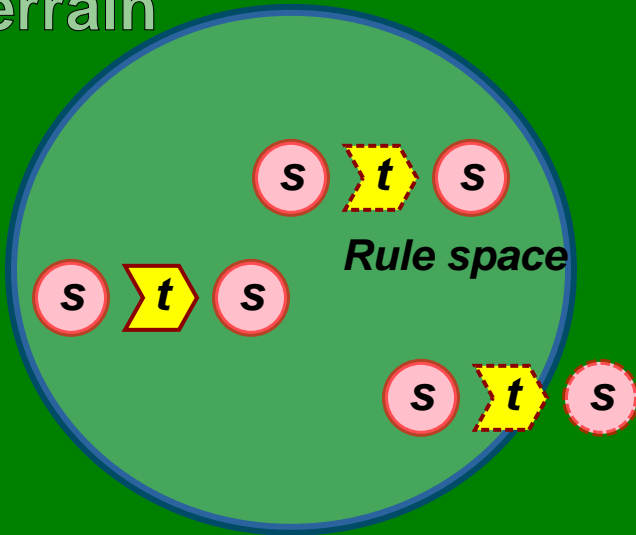
Terrain



Terrain



Terrain

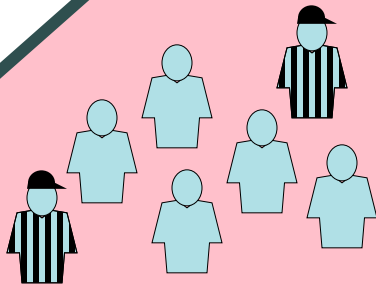
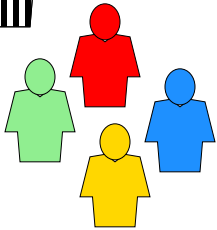
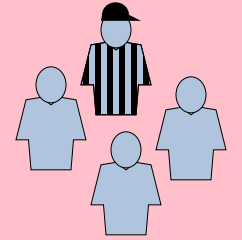
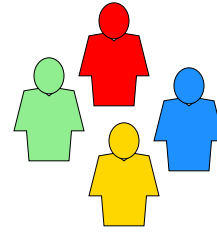


Scrabble board

Scrabble

NSA Official Scrabble™

*NSA Official
Tournament
Scrabble™*



standards

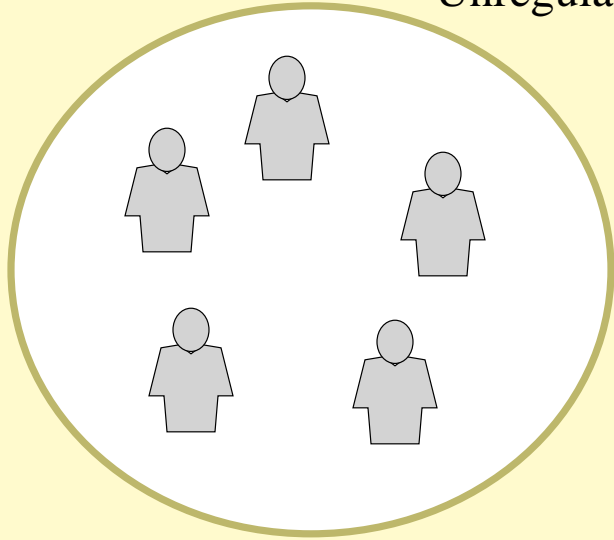
schemas

tagging

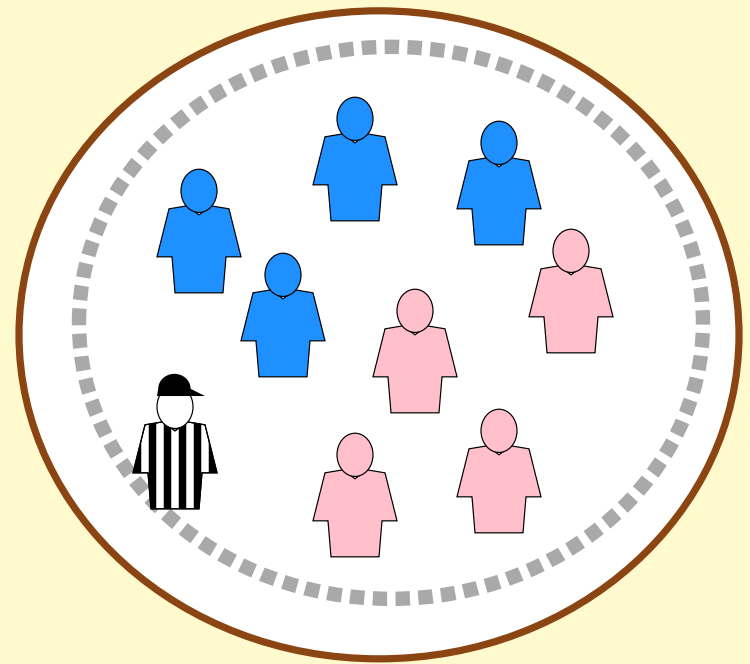
apps

Networked computer

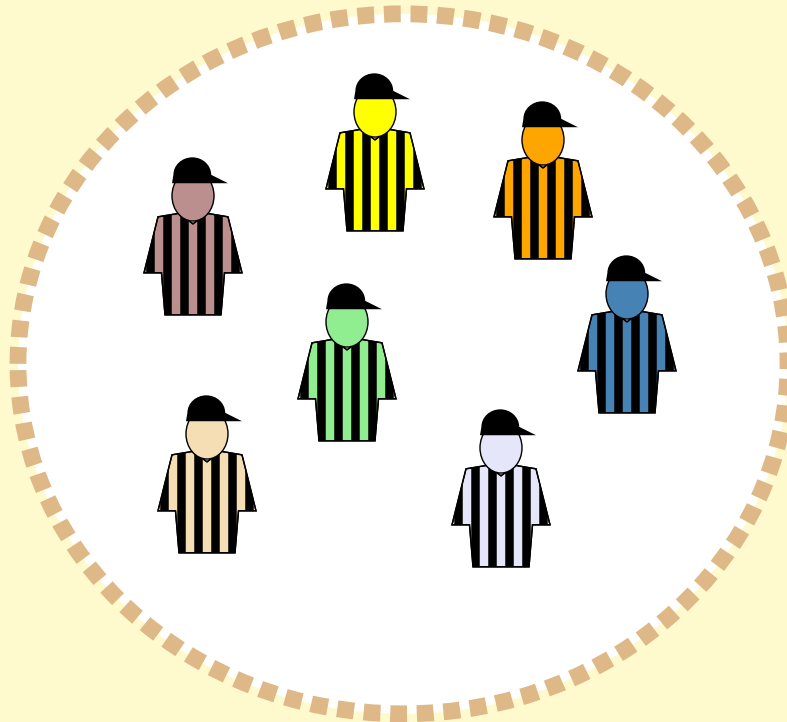
Unregulated game



Regulated game



*In a nomic game,
the rules are within game play*

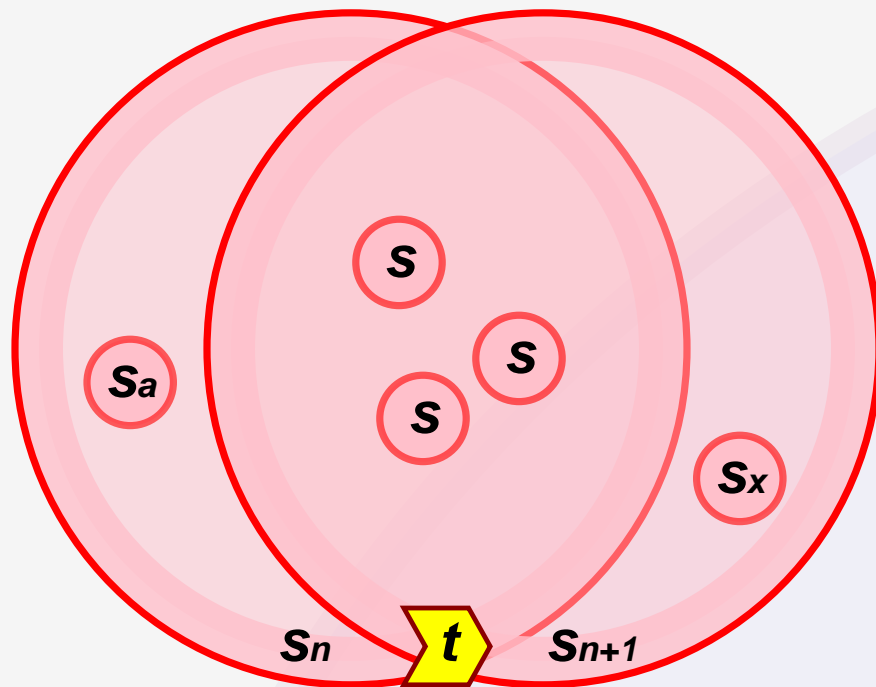


Nomic game

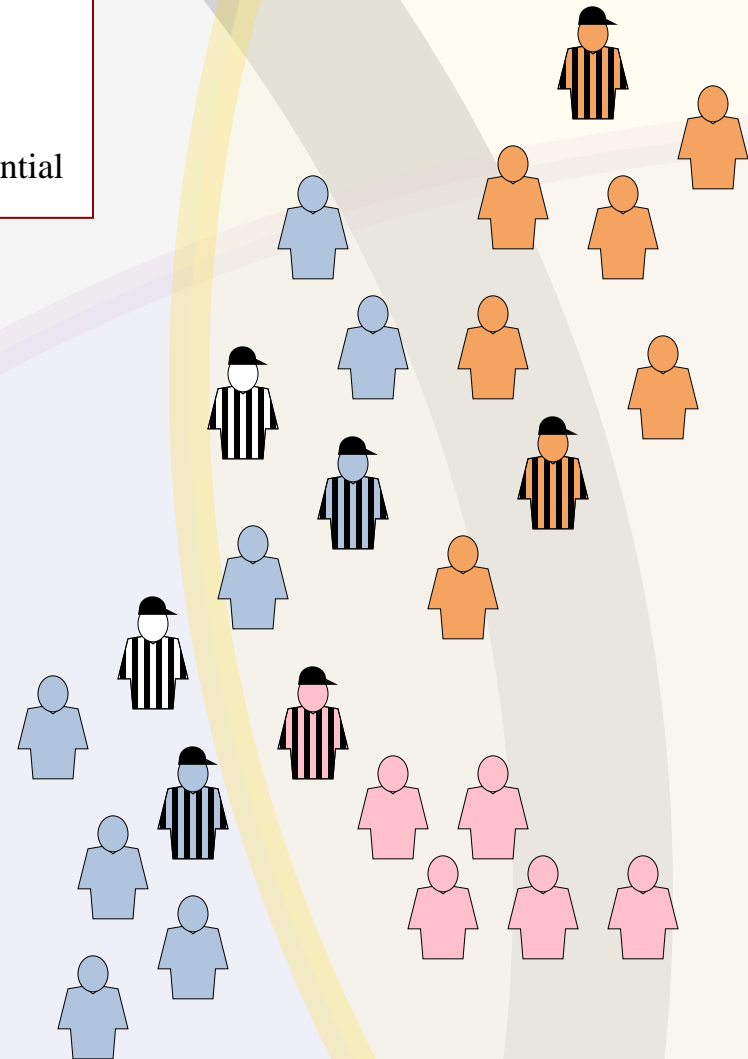
For **Nomic**, see Peter Suber,
The Paradox of Self-Amendment, 1982.

Nomic games are recursive and self-referential ... which leads to *paradox*, interiority, all-inclusiveness

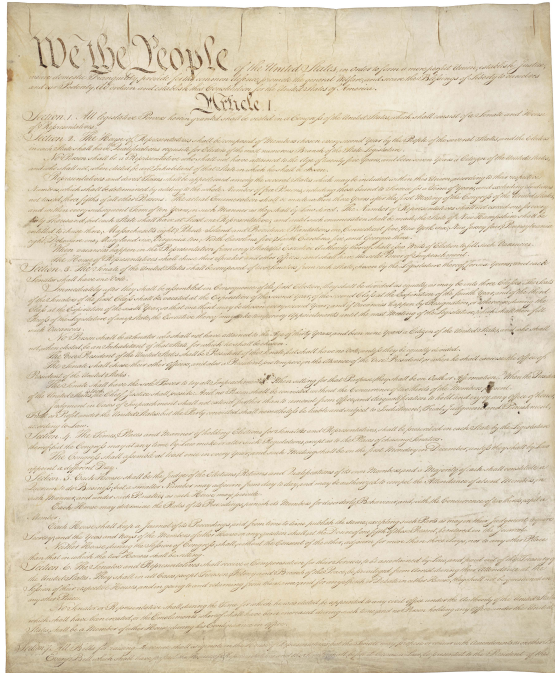
Rules lawyering becomes a critical determinant of outcomes
... leading game play *in*
Boundaries of the game are now malleable and permeable
... leading game play *out*
Purposes (victory conditions) are themselves in play
Rules governing rules and rule-making become useful and even essential



In a nomic game, every game state entails a rule space
(in which it *may or may not* be legal)



Constitution of the United States



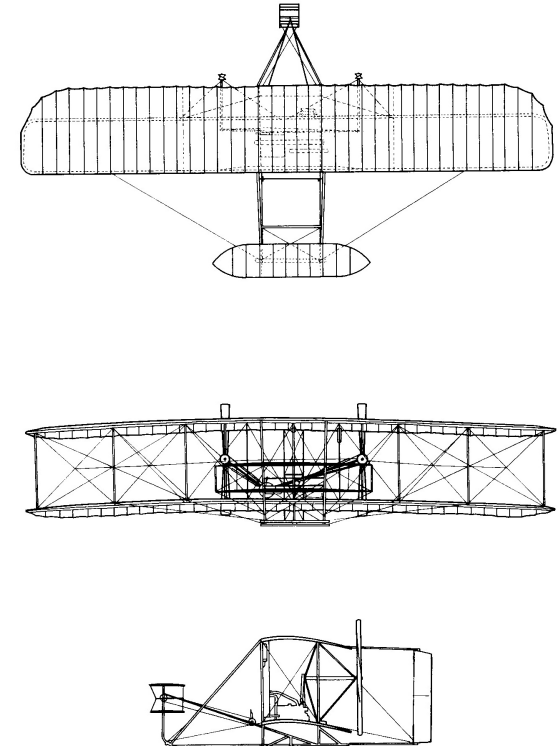
Law

William Blake: *The Ancient of Days*



Art

Wright Brothers 1903 Flyer



Technology

Many human activities have nomic aspects:

To participate is to ~~follow~~ the rules

**break
make**

Blake lithograph from *Europe a Prophecy*.
Lessing J. Rosenwald Collection, Library of Congress.
Copyright © 2009 by the William Blake Archive.
Used with permission.


```
1 <!--
2 <!DOCTYPE HTML
3 PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
```

XML Editor

File Edit Find Project DITA Maps Perspective Options Tools Document XPath 2.0

Find: Find Next Find Previous Incremental Case sensitive

Outline

- article
 - title
 - info
 - configgroup
 - abstract
 - para
 - author
 - personname
 - personblurb
 - section
 - title

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!DOCTYPE article SYSTEM "file:/C:/Projects/Balisage/DTD/bal
3 <article>
4   <title>How to Play XML: Markup Technologies as Nomic Game<
5   <info>
6     <configgroup>
7       <conftitle/>
8       <confdates/>
9     </configgroup>
10    <abstract>
11     <para>XXX</para>
12   </abstract>
13   <author>
14     <personname>
15       <firstname>Wendell</firstname>
16       <surname>Piez</surname>
17     </personname>
18     <personblurb>
19       <para/>
20     </personblurb>
21   </author>
22 </info>
23 <section>
24   <title>What is a game?</title>
25 </section>
```

valid but not correct

"Um, what the heck is this stuff?"

Text Grid Author

C:\Projects\Briarpatch\HowtoPlayXML\Untitled1.xml Format and Indent successful U+000A 11:23 Modified

XML Editor

Incremental Case sensi

No Song" Zone!</p>

, so the "No Song

site Pole! You have

U+000A 23:10

```
TextPad - [C:\Projects\Conferences\Balisage2009\blank.html]
File Edit Search View Tools Macros Configure Window Help
1 <!--
2 <!DOCTYPE HTML
3 PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
4 "http://www.w3.org/TR/html4/loose.dtd">
5 -->
6 <HTML>
7 <HEAD>
8 <TITLE></TITLE>
9 </HEAD>
10 <BODY></BODY>
11 </HTML>
```

"Look ma, no hands!"

**Document schemas:
protection,
or encumbrance?**

```
XML Editor
Incremental Case sensi
No Song" Zone!</p>
", so the "No Song
site Pole! You have
```

```
23 <section>
24 <title>W
25 </section>
```

Project Outline

- article
 - title
 - info
 - confgro
 - abstract
 - para
 - author
 - pers
 - pers
 - section
 - title

```
1 <!--
2 <!DOCTYPE HTML
3 PUBLIC "-//W3C/
```

Project Outline for Untitled1.xml:

- article
 - title
 - info
 - configgroup
 - abstract
 - para
 - author
 - personname
 - personblurb
 - section
 - title

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <!DOCTYPE article PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
3 <article>
4 <title>How to play XML</title>
5 <info>
6 <configgroup>
7 <configtitle>Config</configtitle>
8 <configdescription>Config description</configdescription>
9 </configgroup>
10 <abstract>
11 <para>
12 </abstract>
13 <author>
14 <personname>
15 <first>
16 <surname>
17 </personname>
18 <personblurb>
19 <para>
20 </personblurb>
21 </author>
22 </info>
23 <section>
24 <title>W
25 </section>
```

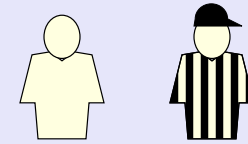
XML Editor (oXygen) showing calvin-quote.xml:

```
19 </article-meta>
20 </front>
21 <body>
22 <sec>
23 <title>Nomic games</title>
24 <p>...</p>
25 <boxed-text>
26 <speech>
27 <speaker>Calvin</speaker>
28 <p>I don't have to sing the song! I was in the "No Song" Zone!</p>
29 </speech>
30 <speech>
31 <speaker>Hobbes</speaker>
32 <p>No you weren't. I touched the "Opposite Pole", so the "No Song"
33 Zone" is now a "Song Zone".</p>
34 </speech>
35 <speech>
36 <speaker>Calvin</speaker>
37 <p><b>I</b> didn't see you touch the Opposite Pole! You have
38 declare it!</p>
39 </speech>
40 </boxed-text>
41 </sec>
42 <sec>
43 <title>The ethics of
44 </sec>
```

Annotations:

- Yellow circle around the `<boxed-text>` element.
- Green box: *"So, what does this do?"*
- Red box: **element semantics: "hard", "soft" or in between?**

Game as moral microcosm and ethical laboratory



~~Game~~
System
Design

Transparency

Simplicity

Fun

Scalability

Interoperability

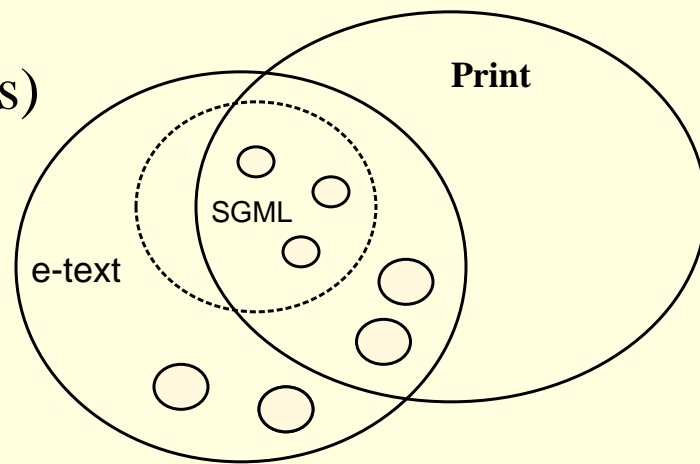
Sustainability

How to define victory?



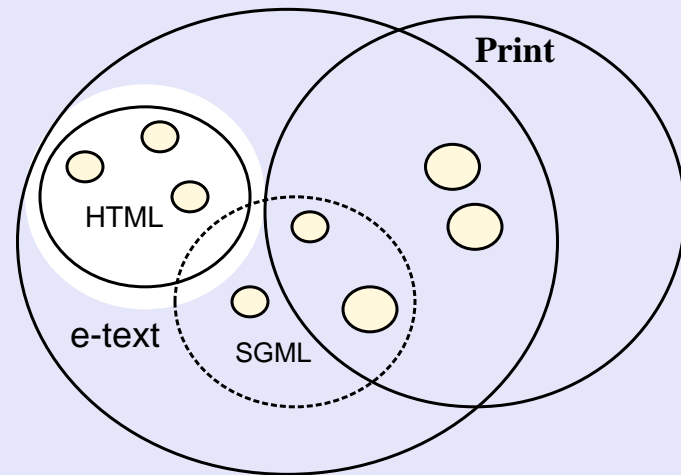
Prehistory (late 1980s - early 1990s)

Standards-based descriptive markup technologies exist, but they are a niche within electronic text applications.



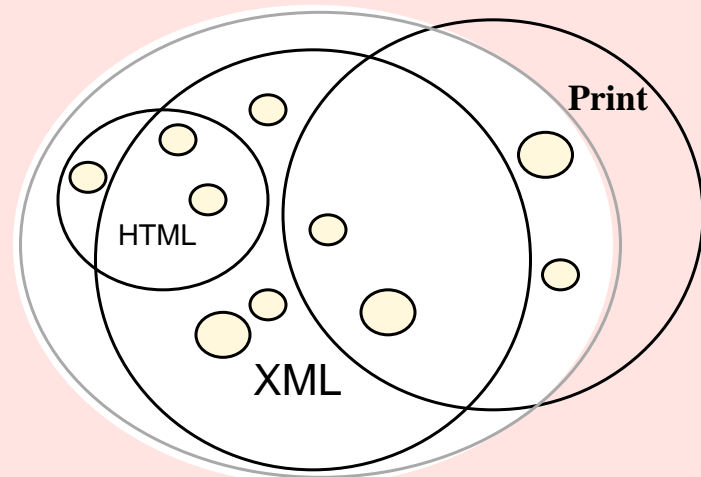
Age of HTML (1990s)

By defining tag semantics, HTML specifies the web browser as a rule space. But the rules are contested, and hardly anyone plays by SGML rules for syntax. The web is its own domain.



First Age of XML (1998 -)

XML rules make it feasible to extend the web beyond HTML and hypertext page display.



Rhetoric

Standards

*Industry
activism*

Domains

Constraint languages

Frameworks

Schemas

Standards

development

Meta-
schemas

Markup

Querying

Processing languages

Web design

Hypertext

Media

Transformations

Publishing
architectures

Page scripting

Typography

Validation

Rhetoric

Descriptive
encoding

Your move ...

