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... building on the XML Foundation

Volker Boeing

Agenda

- ... Challenge
- ... Concepts
- ... XML – the fundament



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2012

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PRT: 1 - Habitat, Substrata and Communities

PRT: 2 - Diversity Patterns and Their Causes

PRT: 3 - Community Dynamics

PRT: 4 - Changing Biodiversity

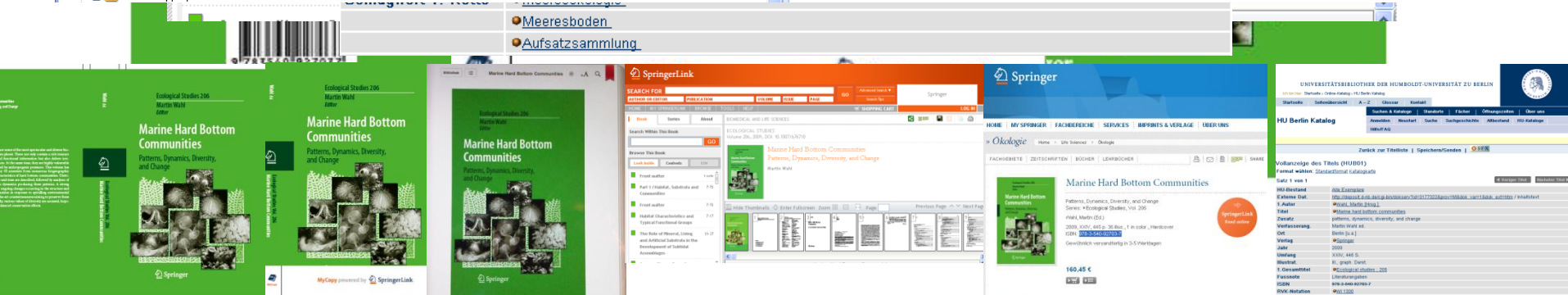
PRT: 5 - Role of Diversity

PRT: 6 - Appropriate Research Methods

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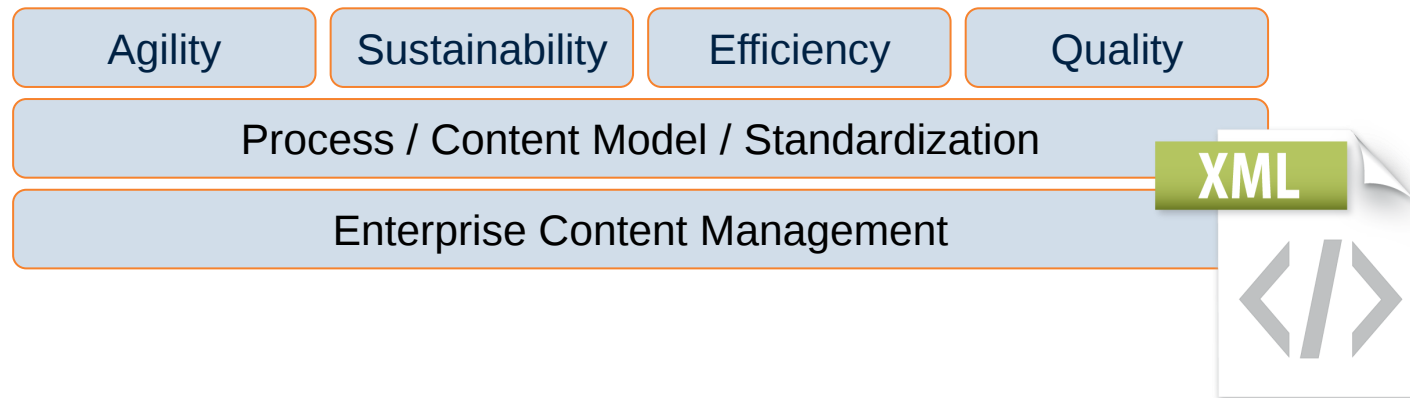
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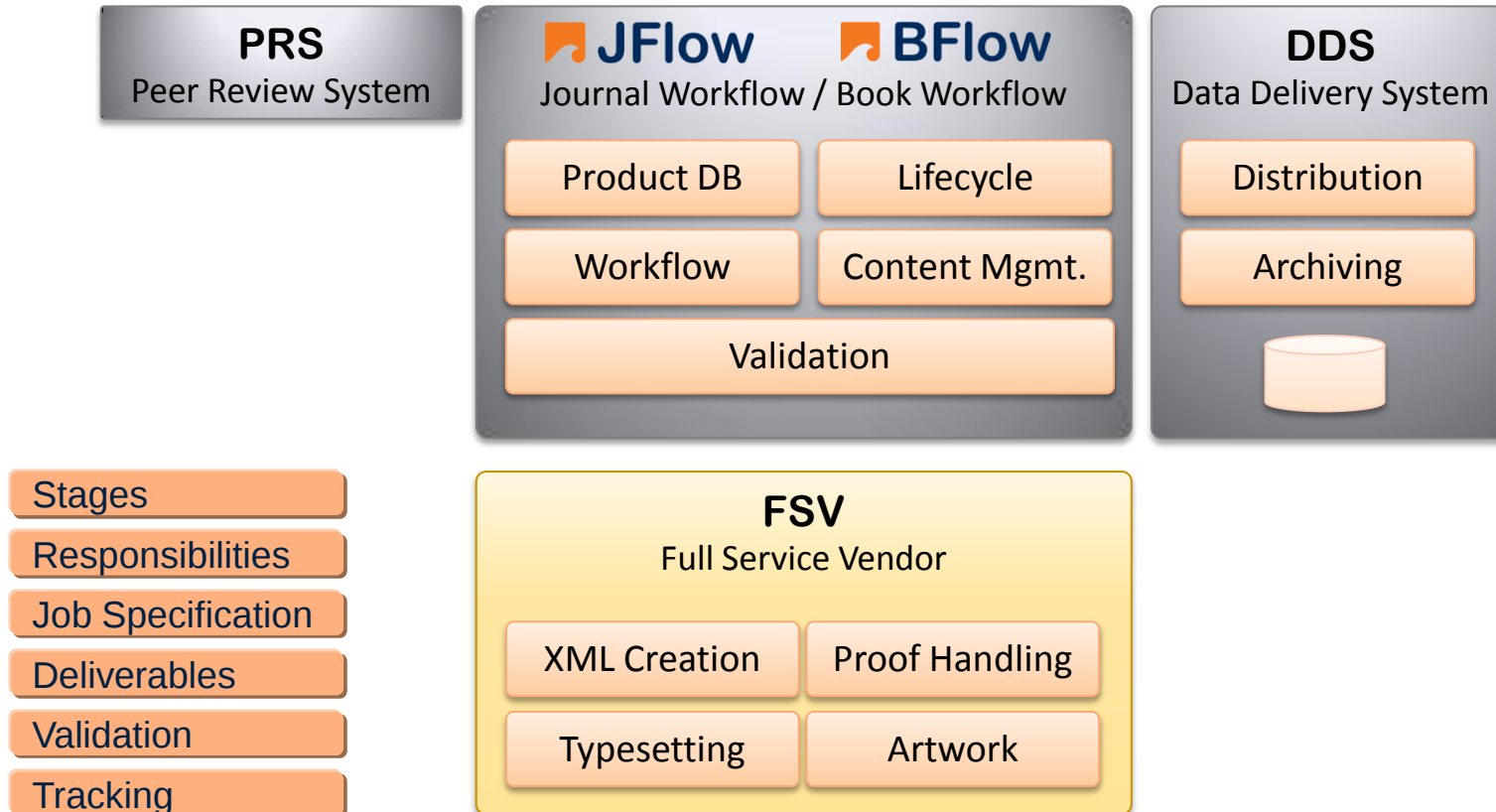
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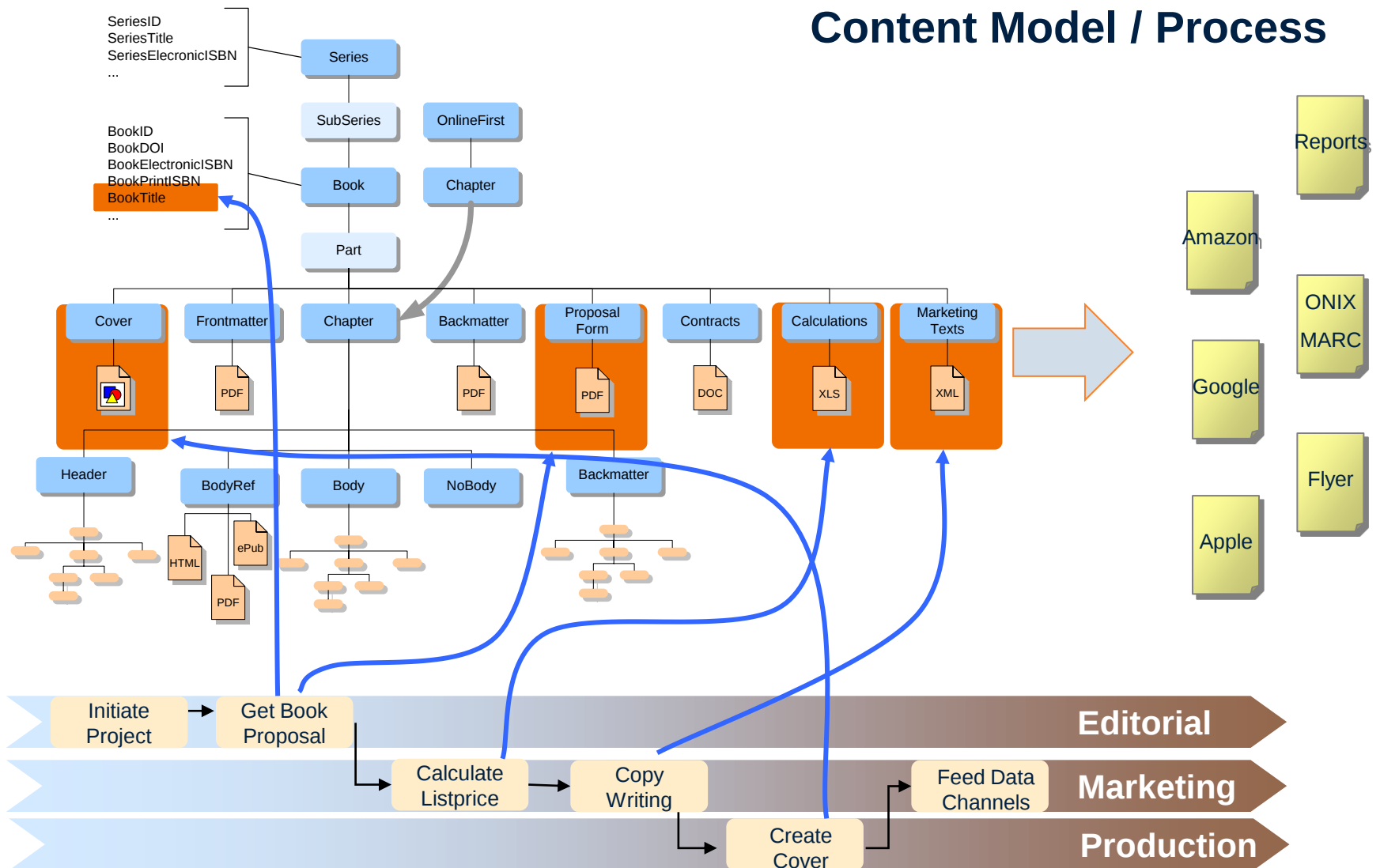
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Building on the XML foundation



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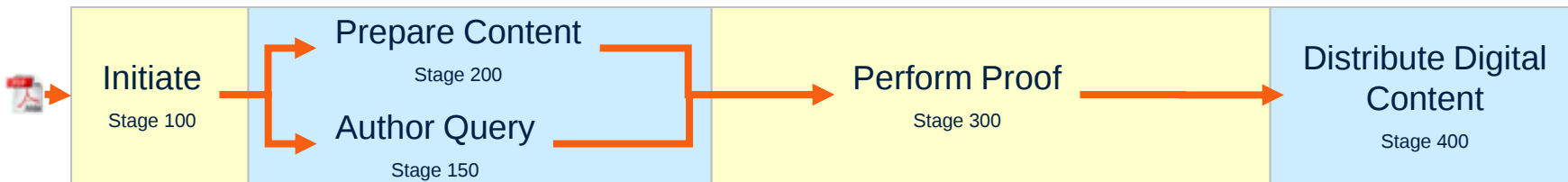
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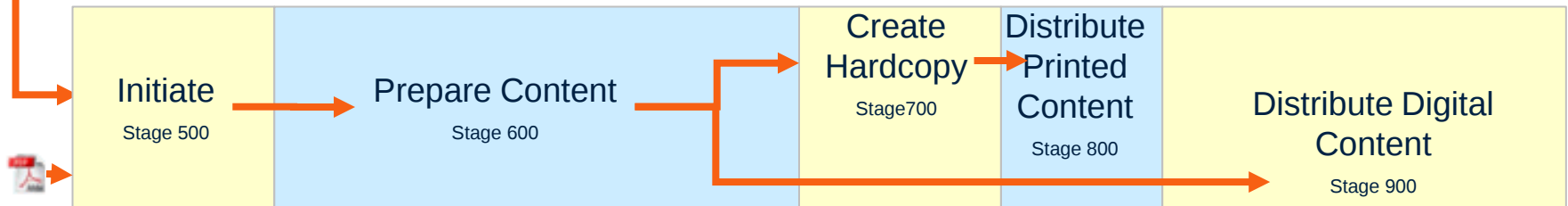
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over, *SuUR* mutation results in the disappearance of most of the SU(VAR)3-9 binding sites in autosomes, but not in the X chromosome. These data point to an interaction of SUUR with HP1 and SU(VAR)3-9 proteins in *Drosophila* NC chromosomes.

Materials and methods

Fly stocks

The stock *y w sn³otu¹¹; SuUR⁺* carries the *otu* mutation (which is responsible for polytene chromosome formation in NCs) and two wild-type alleles of the *SuUR* gene. The stock *sn³otu¹¹; SuUR* carries the *otu* and *SuUR* mutations in homozygous state. The stock *y w sn³otu¹¹; P{w⁺SuUR⁺}* carries the *otu* mutation and is homozygous for the insertion of a P-element-based construct X6S1 on chromosome 2. This construct contains the *mini-white* gene and the full-length genomic fragment of the *SuUR* gene (Makunin et al. 2002). Thus, this stock carries four copies of the *SuUR* allele in total.

Chromosomes were squashed in 45% acetic acid. Ice-cold solutions were used for all procedures, and treatments never exceeded 5–6 min. After squashing, freezing in liquid nitrogen, and removal of cover slips, the preparations were kept in cold phosphate-buffered saline (PBS). Antibodies against SU(VAR)3-9 and SUUR were diluted in PBS/2% Tween-20/5% dry milk. Antibodies against HP1 were diluted in PBS/0.05% Tween-20. Squashes were incubated with primary antibodies overnight at +4°C and with secondary antibodies at room temperature [for SU(VAR)3-9 at +37°C] for 1.5–2 h. Secondary antibodies for HP1 staining were fluorescein-isothiocyanate (FITC)-conjugated sheep anti-mouse IgG (Boehringer Mannheim); for SU(VAR)3-9 staining, Alexa488 FITC-conjugated goat anti-rabbit IgG (Molecular Probes) was used; for SUUR staining, we used FITC-conjugated goat anti-rabbit IgG (Sigma). Subsequently, all preparations were stained with DAPI and analyzed on a fluorescent microscope equipped with a charge-coupled device camera.



Polytene chromosomes

Polytene chromosomes for morphological analysis were

Materials and methods

Fly stocks

The stock *y w sn³otu¹¹; SuUR⁺* carries the *otu* mutation (which is responsible for polytene chromosome formation in NCs) and two wild-type alleles of the *SuUR* gene. The stock *sn³otu¹¹; SuUR* carries the *otu* and *SuUR* mutations in homozygous state. The stock *y w sn³otu¹¹; P{w⁺SuUR⁺}* carries the *otu* mutation and is homozygous for the insertion of a P-element-based construct X6S1 on chromosome 2. This construct contains the *mini-white* gene and the full-length genomic fragment of the *SuUR* gene (Makunin et al. 2002). Thus, this stock carries four copies

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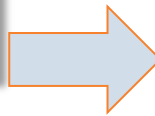
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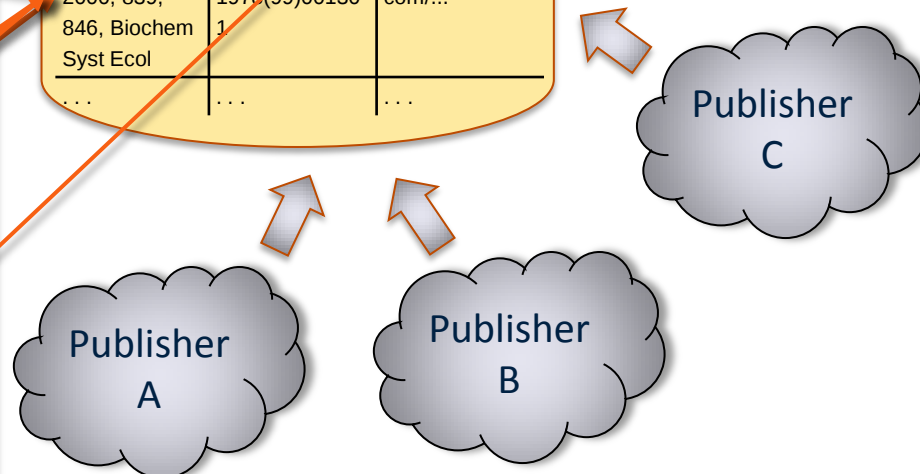
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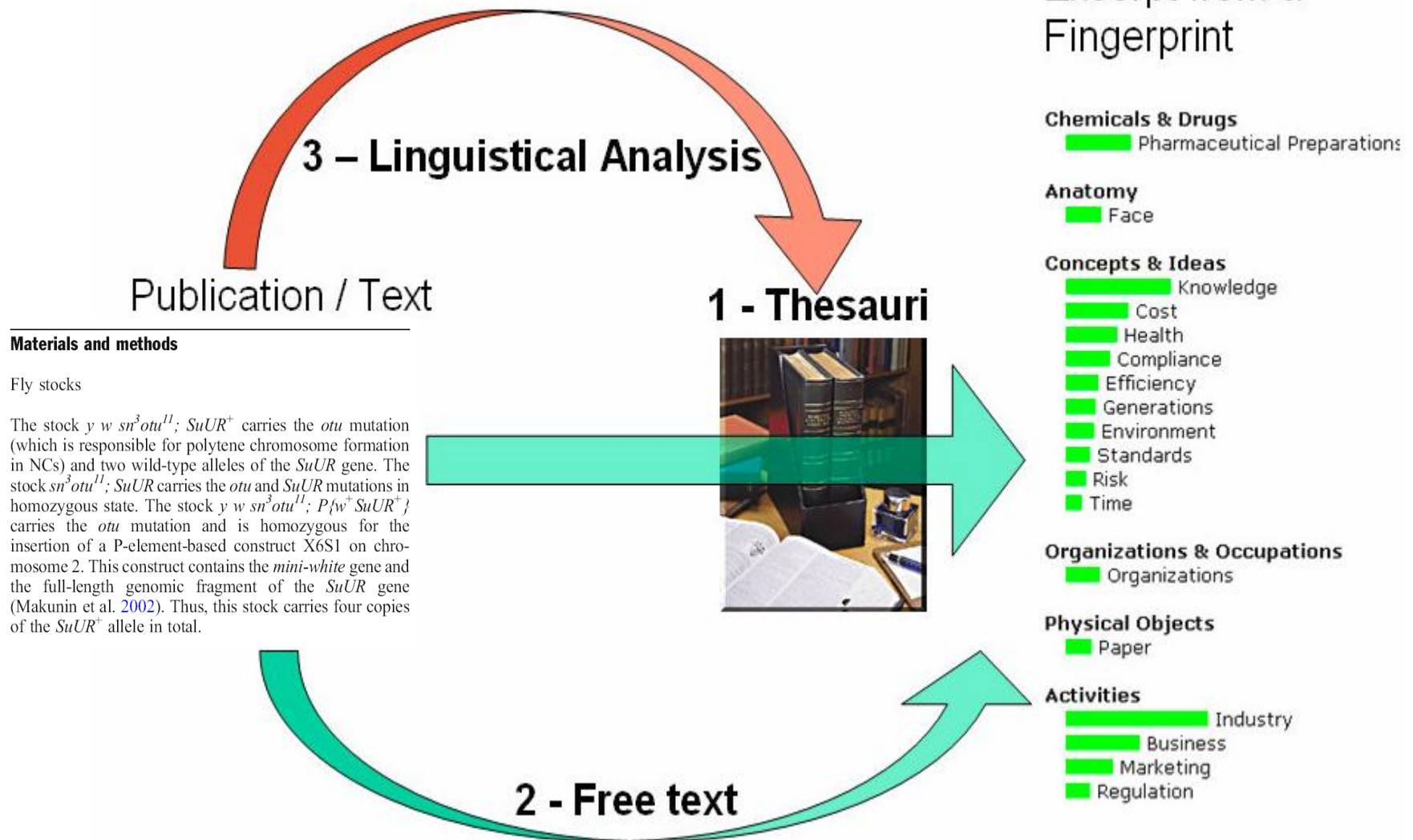
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OECOLOGIA
Volume 168, Number 3, 863-876, DOI: 10.1007/s00442-011-2139-1

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Atmospheric change alters foliar quality of host trees and performance of two outbreak insect species
John J. Couture, Timothy D. Meehan und Richard L. Lindroth

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 - Abstract
 - Introduction
 - Materials and methods
 - Experimental

Oecologia (2012) 168:865–876
DOI 10.1007/s00442-011-2139-1

GLOBAL CHANGE ECOLOGY - ORIGINAL PAPER

Atmospheric change alters foliar quality of host trees and performance of two outbreak insect species

John J. Couture · Timothy D. Meehan · Richard L. Lindroth

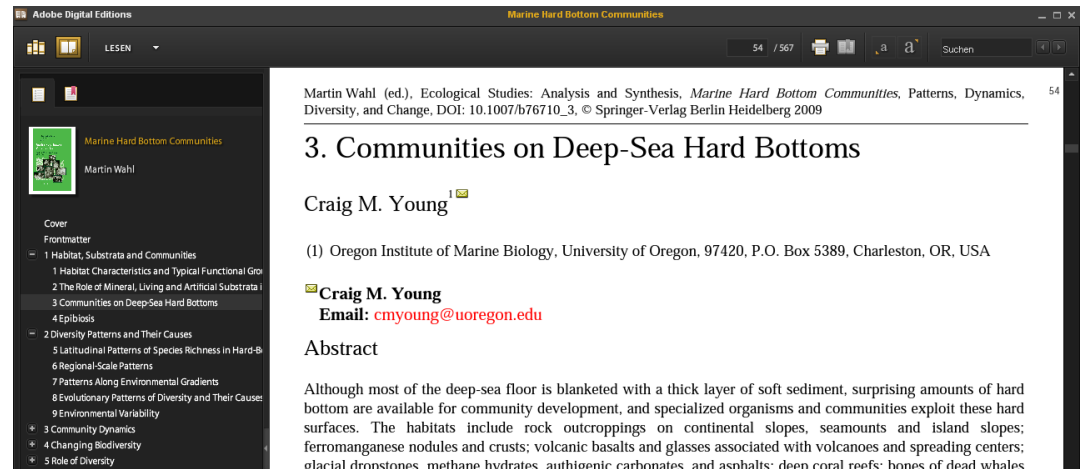
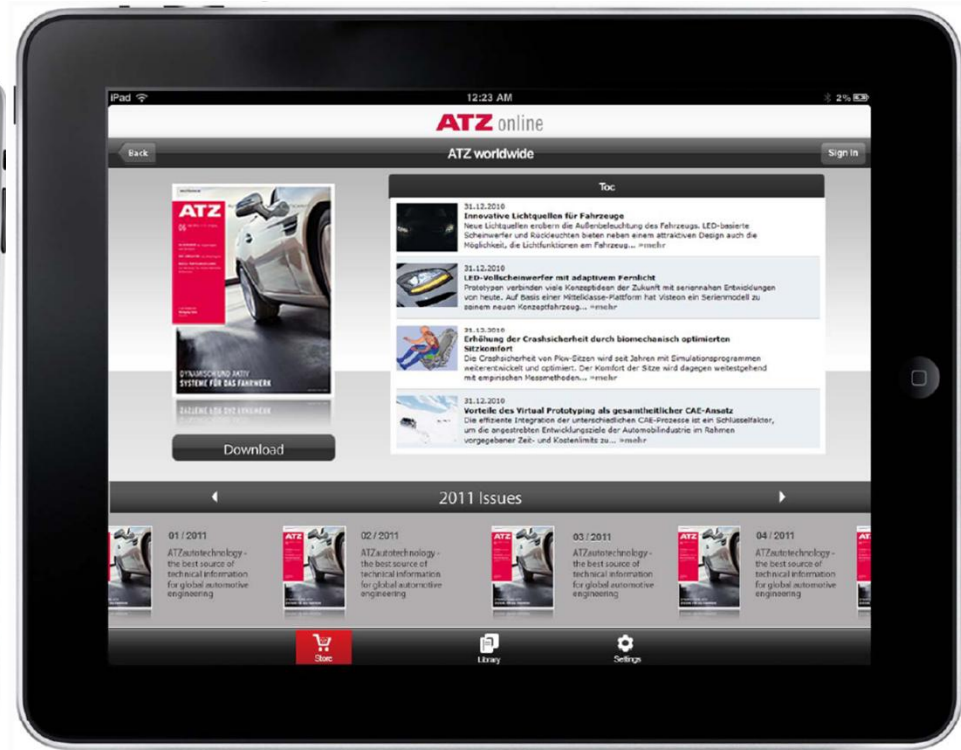
Received: 3 May 2011 / Accepted: 27 August 2011 / Published online: 5 October 2011
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Abstract This study examined the independent and interactive effects of elevated carbon dioxide (CO₂) and ozone (O₃) on the foliar quality of two deciduous tree species and the performance of two outbreak herbivore species. Trembling aspen (*Populus tremuloides*) and paper birch (*Betula papyrifera*) were grown at the Aspen FACE research site in northern Wisconsin, USA, under four

depend on interactions among CO₂, O₃, and tree species. An emergent finding from this study is that tree age and longevity of exposure to pollutants may influence the effects of elevated CO₂ and O₃ on plant-herbivore interactions, highlighting the need to continue long-term atmospheric change research.

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... carried the silent mutation in the **homozygous** (18%) or heterozygous (36%) state. ...

... Cb Cln3 wild-type, heterozygous, and **homozygous** neuronal precursor cell lines, which can ...

... major microfibrillar proteins. The PDLs of **homozygous** mgR mice showed one-quarter of the elastic ...

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... test, the exploratory activity of the **homozygous** (-/-) mice was significantly higher ...

... that leads to loss of dysbindin-1 in **homozygous** mice, which also shows a loss or reduction ...

... McDevitt 1989; Brodde 1991) in volunteers **homozygous** for the Gly389 or Arg389 β 1-adrenoceptors ...

... of contiguous homozygosity (runs of **homozygous** loci) in human genotyping datasets is ...

... Management of **homozygous** familial hypercholesterolaemia is ...




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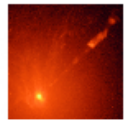
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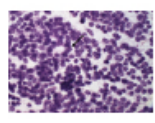
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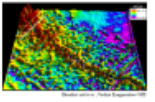
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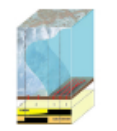
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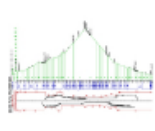
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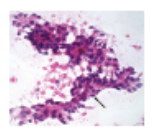
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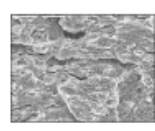
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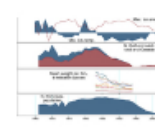
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