Beyond “clear wood”: exploring the structure-properties of figured woods and of woods with strong gradients selected in craftsmanship
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Beyond « Clear Wood »: Exploring the Structure-Properties of Figured Woods and of Woods with Strong Gradients Selected in Craftsmanship

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This poster is to present a beginning Ph.D. research for the study of wood with artisanal usage with non-straight or heterogeneous wood with artisanal usage with non-straight or heterogeneous wood.

A paradox between the viewpoints of engineering sciences and of the artisanal usage for wood is posed:

- In natural, homogeneous wood is singularity
- From engineering viewpoint, a good quality wood is orthotropic (clear wood), with homogeneous character.
- To the artisanal usage, heterogeneity and/or singularity could be seemed as defect or quality.

The goal for this program is to fulfill the gap of knowledge of heterogeneous woods (e.g. figured wood and grain deviation).

A. Surveys with craftsmen for the usage of wood with high gradients of properties and the selection trade-offs.

B. Establishment of a typology of wood according to different patterns and usages.

C. Exploration of botanical diversity and variability to determine the certain singularities and mechanical characteristics.

D. Reducing the problem according to the typology of the observation scales relevant for the multi-scale analysis. Experimental characterization (and modelling) of the structural mechanical repercussions in conditions with high gradients of properties.

E. Study of the visuo-tactile sensory perception by craftsmen, especially for figured woods.

References
- Cabrolier, P., Description et comportement mécanique des bois controllés, 2007, Université Montpellier 2 (Sciences et Techniques)

CONTEXT

EXPLORATION

FUTURE WORK

WORK PROJECTs

http://en.woodtec.co.jp/products/individuality-tree/