



Properties of Parquet Finishing by Means of Oils and Waxes

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**Palace of Versailles, the Hall of Mirrors, 1679
Jules Hardoijn-Mansart and Charles Le Brun (1647-1708)**





Hermitage, St Petersburg, 2 half of XVIIIw.

Usage properties of parquets

Properties – building physics

- Technical and usage comfort (health protection, calmness, comfort, safety, social values)
- Microclimate of the interior (heat and moisture conditions of the air, environment and divisions); health and hygiene (air, noise, electrostatics, aesthetics)
- Surface properties (surface level and smoothness, dimensional stability, tightness and aesthetics of the layout, durable colour)

Technical properties of wood as a constructive material

- Physical (resistance to humidity)
- Mechanical
- Surface
- Heat related
- Acoustic
- Resistance to biological corrosion
- Aesthetical

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Usage properties of parquets -DURABILITY

the period of resistance (that is, the preservation of properties in a condition permitting the usage) to the factors causing wood decomposition

= MATERIAL + FINISHING

- density
- hardness
- wood elasticity
- strength properties (compressive strength across fibres, shear strength and splitting strength)
- resistance to abrasion and scratches
- resistance to microbiological factors

= SPECIES + SECTION

DESTRUCTIVE FACTORS

- biological agents (fungi, bacteria, algae, lichens, insects and others)
- chemical (acids, bases, salts, aerosols)
- physical and chemical (light, radiation, high temperature, fire)
- physical and mechanical (low temperatures, changes in humidity, mechanical forces)

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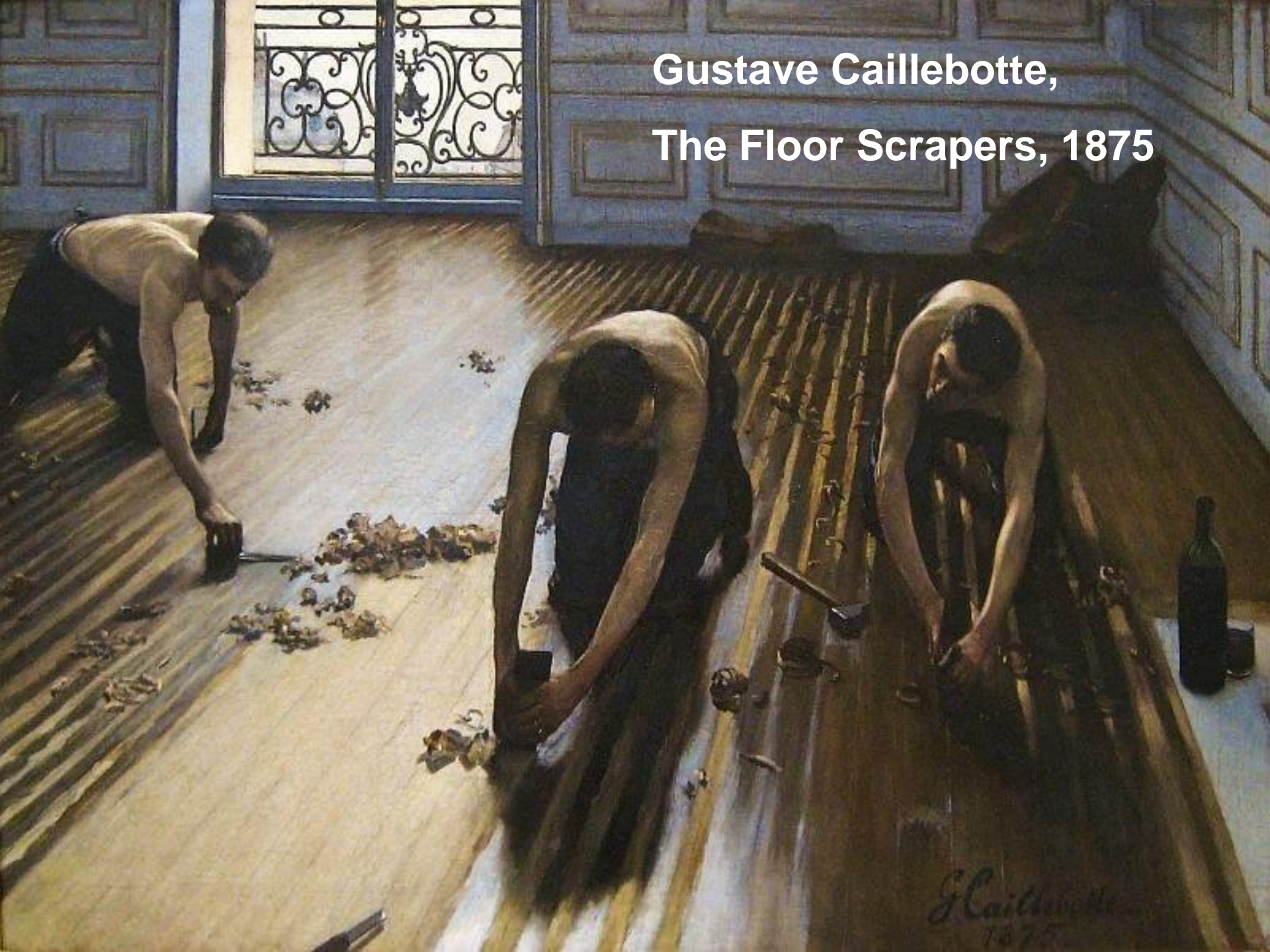
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Gustave Caillebotte,
The Floor Scrapers, 1875





- In antique buildings, until the 1st half of the 20th century, old, historical techniques of surface finishing were used: varnishing and waxing.
- These are traditional techniques that make use of natural substances and ecological technologies.
- Applied when hot, the substances penetrate into the wood's structure, without creating a layer on its surface.
- Wax and varnish leave the effect of natural wood structure, with a beautifully highlighted pattern.
- Studies of the resistance properties related with the application of traditional finishing materials show that it is possible to use them nowadays, as their properties are similar to the contemporary methods.