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“The measurement of subjective experiences - from colour to beauty”

Colour and beauty are often regarded as subjective experiences about which there can be no dispute [*de gustibus et coloribus non est disputandum*]. Yet psychophysical experiments show that when subjects belonging to different races and cultures are asked to categorize the colours of surfaces when these surfaces are viewed in lights of different wavelength composition, they invariably categorize them in the same way. Hence the categorization made by one person has universal validity and is therefore objective.

Equally, when human subjects belonging to different races and cultures are asked to rate the beauty of faces (biological beauty), they invariably give the same high rating to *very* beautiful faces, regardless of the gender, race, or culture of the rated face. Hence, an individual rating a face as very beautiful can assume with reasonable confidence that their rating has near universal agreement. This is not true for building or other man-made artifacts (artifactual beauty), where aesthetic ratings vary considerably, not only between subjects belonging to different cultures and races but also between those belonging to the same race or culture.

I will discuss the objective reality that turns the aesthetic experiences in the biological domains of colour and faces into objective ones that have universal assent rather than subjective ones, and consider why the experience of mathematical beauty may also be considered as belonging in the biological category.

Finally, I will discuss brain imaging experiments which show that the brain activity correlating with aesthetic experiences can be both localised and measured and consider, in light of these experiments, why beauty matters.