

DEEP DIVE

# Occlusion Shadow

*The darkest darkness — the places where light cannot reach at all.*

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Occlusion shadows (sometimes called ambient occlusion or contact shadows) are the shadows that form wherever two surfaces are close together and light simply cannot reach the gap. They are the darkest marks in any drawing. They appear at crevices, contact points, folded fabric, between fingers, underneath a chin — anywhere that ambient light is geometrically blocked from every direction. Adding occlusion shadows correctly is one of the fastest ways to make a drawing look professional.

## WHAT CREATES OCCLUSION

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Regular shadows require a specific light source — move the lamp and the shadow moves. Occlusion shadows depend only on geometry. If two surfaces are close together, ambient light is blocked regardless of where the light source is. This is why occlusion shadows are sometimes called "contact shadows" — they are strongest at the exact point of contact between surfaces. The closer the surfaces, the darker the occlusion. The wider the gap, the more light can enter and the lighter the occlusion becomes.

## OCCLUSION IN PRACTICE

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Find occlusion shadows in these locations: where an object sits on a surface (the contact point is nearly pure black), inside ear canals, in the corner of a closed eye, between pressed fingers, in the crease of an elbow, under a nose where it meets the upper lip, in the armpit of a raised arm. These locations are geometrically enclosed and receive almost no ambient light. Make them your darkest values — darker than your core shadow, darker than your cast shadow.

## OCCLUSION VS. CAST SHADOW

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People sometimes confuse these, but they are different. A cast shadow has a clear edge and varies in value from dark (near the object) to slightly lighter (far from the object). An occlusion shadow is always at the contact point, always at maximum darkness, and does not vary — it is simply blocked from all light. In practice, the two often overlap: the deepest part of a cast shadow, right at the object's base, is also where occlusion is strongest.

## UNIFYING THE SCENE

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Occlusion shadows serve a critical compositional function: they ground objects to their surfaces. A sphere drawn perfectly but without a contact shadow seems to float. Add a small occlusion shadow at the base and it immediately rests convincingly on the surface. In complex drawings with many objects, painting occlusion

shadows consistently is what makes them all feel like they inhabit the same physical space.

## EXERCISES

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Day 1: Set up three objects on a table. Before drawing the objects, draw only their contact shadows as dark marks on the paper. Then build the objects around those contact shadows. Day 2: Draw a hand resting flat. Pay special attention to the shadows between each finger where they contact the surface and each other. Day 3: Draw crumpled fabric. Every fold crease should have an occlusion shadow at its deepest point. Day 4: Draw a face. Identify and render five occlusion points (nostril base, corner of mouth, inner corner of eye, under the brow, ear canal). Day 5: Working from imagination, draw three round objects stacked on top of each other. Use occlusion shadows to sell the contact between each.