For the American sculptor, David Smith (1906–1965), drawing was a language to replace words. It was the subconscious immediacy of drawing that allowed formal concepts to take shape during the laborious process of welding steel. In the 1950s, Smith’s sculptural output increased dramatically in both scale and quantity. At the same time, his drawings acquired a separate identity, largely independent of his sculpture, yet these drawings, and indeed much of Smith graphic process, have to date not been studied in depth from a technical perspective.

Utilising the technical study as its mode of inquiry, this thesis investigates the complex tacit knowledge present in Smith’s work, particularly as it exists in the relationship between the practice of drawing and the practice of sculpture, and applies it to the understanding of his oeuvre. Unravelling this tacit or hidden knowledge reveals that Smith attached much significance to materials. More pertinently perhaps, this approach prompts a hypothesis that argues for a simultaneous and synergistic material relationship between sculptural and drawing in Smith’s practice. The elucidation of the tacit within Smith’s work when framed within recent understanding of the importance of tactile perception in experiencing works of art reveals that Smith may have used materials that both perceptually and physically extended drawing into three dimensions and further, that these materials often had resonance with materials used in his sculpture.

Studying the technical aspects of Smith’s process inevitably provides a framework for discussion on durability, damage and authenticity in his work. Smith’s extensive investigation into materials - both industrial and artistic – is discussed as a function of his self-identity not as artist, but rather as industrial worker, with a pragmatic interest in the use of durable materials in his work, both graphic and sculptural. The fact that a significant number of Smith’s painted sculptures and drawings have aged poorly is therefore difficult to reconcile. It raises questions about the true durability of his media, why they have deteriorated and, more importantly, how an understanding of the tacit, and of technique and process might be crucial for decisions made for their conservation.

In this context the deterioration of a substantial number of Smith’s iconic drawings from the 1950s is discussed in juxtaposition with the now notorious decision in the early 1970s to completely remove badly deteriorated paint from a number of his unfinished sculptures by the then Executors of Smith’s estate, ostensibly to preserve the integrity of his work. That alteration has occurred in both drawing and sculpture in Smith’s work is highly significant, given Smith’s lack of demarcation between the disciplines. It provides a base for discussion on the meaning of intent, damage and restoration in Smith’s work and suggests that even small changes in surface texture, gloss or colour might irrevocably alter our perception of it.

The results of the investigation provide several important observations: Firstly, that there is a considerable tacit dimension to Smith’s graphic work not previously considered in studies of his practice and that in understanding this it becomes clear that Smith used drawing in a more complex and vital manner than previously considered. Secondly, that Smith’s drawings were informed to a great extent by both three-dimensionality and by the materials he chose, that tactility and notions concerning the haptic perception of objects might provide insight into Smith’s work, and that this can be applied equally to drawing as much as sculpture. Thirdly, that Smith’s ideological stance as an industrial worker profoundly affected his process and the materials choices he made, and finally, that change in Smith’s works whether the result of deterioration or deliberate intervention might profoundly alter perception and understanding of such nuanced work.