How successful is Berkeley's attack on Locke's distinction between primary and secondary qualities?

The attack by George Berkeley on John Locke's proposed distinction between primary and secondary qualities forms only a part of the consideration of Locke's wider theory of external-world realism, and thus to answer the question we must first briefly locate the distinction in question in the context of the rest of Locke's theory, and indeed to some degree within the wider context of the contemporary science and philosophy of Locke's time. With this in mind, we should begin by laying out the relevant areas of Locke's theory, including a clarification of the concepts of primary and secondary qualities, before moving on to examine Berkeley's criticisms, as well as further developments of originally Berkeleian ideas. Once we have understood the grounds upon which Locke appears to be basing his distinction and once we have considered Berkeley's objections to the distinction, we will see that his criticisms, and the ways in which we might further develop and expand upon these criticisms while still labelling them Berkeleian, do ask significant questions of the Lockean account of the primary-secondary distinction that it is difficult to coherently and conclusively refute.

The notion of primary and secondary qualities, and the distinction between the two, was developed by Locke as a part of his theory of sense-perception, as a constituent part of his wider empiricist theory of external objects and the nature of objective reality. The distinction itself concerns Locke's idea that objects external to the mind are only accessible indirectly, through sense-perception, and the notion that the qualities that these objects possess can be separated into two distinct groups. Primary qualities are those qualities that an object possesses independently of any observer. This includes basic geometric properties such as size and shape, as well as properties such as motion and number. These properties exist in the object itself, and characterise facts about the object that can be determined with certainty, and that do not rely on the subjective judgement of an observer. Secondary qualities, by contrast, are those properties that produce sensations within observers or perceivers, such as colour, taste or smell. Rather than being factual, these properties can be characterised by the effects that they have upon the observer, and, importantly, such properties cannot be relied on to convey objective fact. For Locke, then, primary qualities are examples of the measurable, quantifiable aspects of external physical reality, while secondary qualities are an observer's subjective sensation of this reality.

The classic example of the primary-secondary quality distinction that Locke gives is that of heat. Locke suggests that if one were to place one's left hand in hot water, and one's right hand in cold water, and then move both hands into the same bucket of lukewarm water, the lukewarm water would appear to your left hand as cold, and your right hand as warm. Thus, argues Locke, heat is not a quality that is intrinsic to the water, or inextricable from it, and this is thus an example of a secondary quality. This distinction was one that had garnered support from the leading scientists and philosophers of the 17th Century, and was a view heavily influenced by the science of men such as Newton and Robert Boyle, whose atomism reduced everything in the universe to the same minuscule, essential, indivisible building blocks and was influential on

1 J Locke, *An Essay Concerning Human Understanding*, (1690), II, viii, 21