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Prologue

"The surest way to corrupt a youth is to instruct him to hold in higher esteem those who think alike, rather than those who think differently."

– Friedrich Nietzsche

"One who imitates nothing, produces nothing."

– Salvador Dali

"I see," says the reader. "The implication is that one must be encouraged to think independently, while continuing to adhere to the expected standards and norms. They must walk the common ground, without straying unilaterally." This is perhaps, one way of expressing a common interpretation of the epigraphs above, and may also be the most intuitively acceptable explanation. Simultaneously however, this logical intuition contradicts the rationale of both speakers: imitation would be to think alike, and thinking differently would be to produce nothing. Ergo, when thoroughly analyzed, the accepted and well reasoned interpretation results in failure from the perspective of both ideals. Consequently, one must develop an alternate, counter-intuitive interpretation capable of absolute justification of two fundamentally opposing motives: rather than walking the common ground, one must exist as the simultaneous superposition of both extremes; there is no common ground, because it does not exist.

While this explication comprehensively eradicates the paradox of ideals, logically it manifests as thoroughly nonsensical, producing anomalous incongruence antagonistic to any basis within reality; for the common ground must exist, as it can be observed. And as it must exist, the initial

interpretation is required to hold true, consequently resulting in unbounded loop and giving rise to the conclusion that both perspectives are simultaneously correct and incorrect. While similar examples of paradoxic causality loops can be found throughout nature and anthropologic phenomena, a quintessential example of the embodiment of these dual super-positional extremes has already been encountered reader, and will be seen again in later sections.

But what do polar opposition, paradox, and simultaneous superposition have to do with asynchronous Quasi-Delay Insensitive (QDI) design? While it can be subjectively asserted that they are in fact encountered pervasively throughout, one must begin with an example in order to demonstrate the ubiquity of such a concept: motivation.

Since the late 1980's, numerous arguments in favor of asynchronous design have evolved. In addition facilitating niche applications in signal processing, data-flow, defense and aerospace, and historical examples of out-performing traditional design methods by up to 4X while simultaneously generating twice the energy savings, QDI design also embraces a decreased susceptibility to supply resonances and reduced electromagnetic interference. Moreover, because the only timing assumption permitted by the classification is that of the isochronic fork, one does not require the same degree of timing validation as other VLSI design techniques, consequently justifying the assertion that investment in QDI design, presents opportune potential to prevail as the first to market using the latest technology nodes and fabrication techniques. Alternatively, the highly robust circuitry resultant of a lack of timing assumptions, also implies that one also has the ability to permit high degrees of variation within their fabrication methods, resulting in exceptional cost savings.

Regardless of these left-sided and logical rationalizations however, and while many may find the asynchronous style conceptually intriguing, there remains an intransigent reluctance, as the decision to temporarily, yet fully reject what one has spent transient and economic investment in developing, is elementally at its core an illogical one. Ergo intuitively, an alternate counter-intuitive motivation must exist to satisfy the existing reluctance. Such an intuition however, would require utilization of a right-sided, perhaps seemingly nonsensical argument. This rationalization is difficult to conjure within the confines of academia however, because science must always remain inherently unbiased, based on historical fact, and grounded in quantitative results. And yet, there is one work in particular that comes to mind, that not only adheres to scientific truth, but simultaneously (although perhaps unintentionally) leverages such an argument: "No, You Can't" [1]