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A Good Name and Great Riches: Rebranding Solid State Physics for the National Laboratories[1]

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In 1943 Oliver Buckley, lamenting the inadequacy of term "physics" to evoke what physicists did, quoted the proverb, "A good name is rather to be chosen than great riches." Some forty years later, solid state physicists confronted similar discontent with their name, precipitating the rise of the appellation "condensed matter physics." Ostensibly a rebranding of a well-established field, the change signaled deeper conceptual and institutional realignment. Whereas "solid state" emerged in the 1940s in the service of institutional aims, "condensed matter" more accurately captured a distinct set of theoretical and experimental approaches. Reimagining the field around core conceptual approaches set condensed matter apart from the inchoate field of materials science, which subsumed a growing proportion of solid state funding and personnel through the 1980s. Federally funded research installations were the source of "great riches" for scientific research. The DOE National Laboratory System and the DARPA network of Interdisciplinary Laboratories, given their responsiveness to shifts in national funding priorities, provide a sensitive historical instrument through which to trace the transition from solid state to condensed matter. The reorganization of solid state in response to the evolution of national priorities and funding practices precipitated a sharpening of the field's intellectual mission. At the same time, it reflected the difficulties solid state faced articulating its intellectual–as opposed to technological–merit. The proverb continues, "... and loving favor rather than silver and gold." The adoption of a name that emphasized intellectual cohesion and associated social esteem exposed the growing tension between technology-oriented national funding goals for materials research and condensed matter physics' ascendant intellectual identity.

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