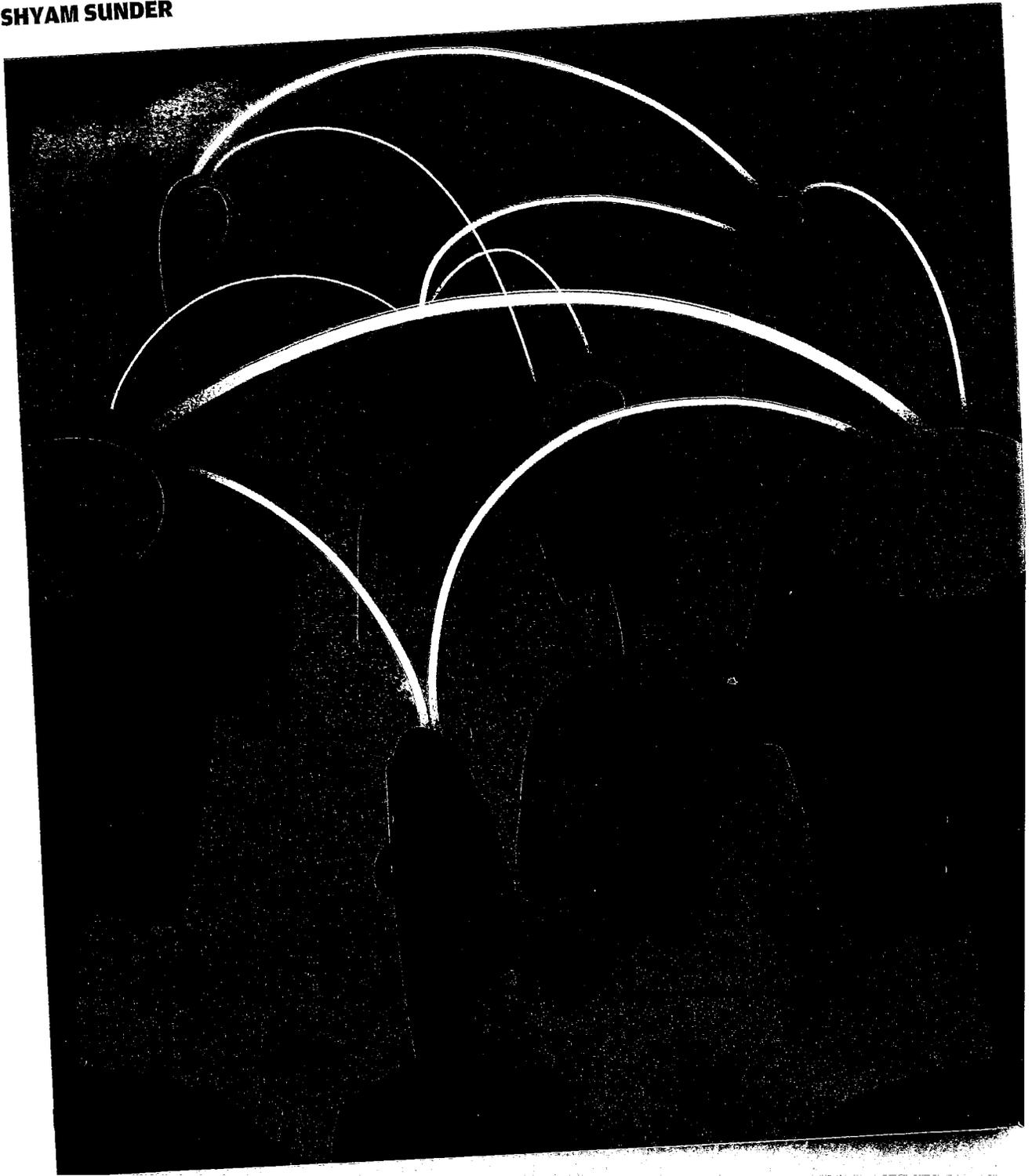


PERSPECTIVE

Rational order from 'irrational' man

The deep intellectual roots of psychology are firmly grounded in individual behaviour while the primary concerns of economics is located at higher levels of aggregation

SHYAM SUNDER



We are the millennia-rich heirs of human achievement. Our forefathers have gifted us with the benefits of their discoveries in art, the humanities, the physical and social sciences and in a multitude of other professional and technical practices. The momentum shows no signs of stopping. Perhaps Moore's Law is applicable to knowledge itself.

Our achievements have been made possible through intensive interactions among many disciplines. Integrating different fields to arrive at the ultimate "Theory of Everything" has been the Holy Grail for many thinkers.

This synoptic enterprise, however, has yielded only mixed results. Arguments for and against unification, as they have occurred over the centuries, appear to have settled in an uneasy draw.

Still, the dream of unification retains an irresistible appeal. As the Stanford Encyclopedia of Philosophy puts it: "It is not surprising that talk of the many meanings of unity, namely, fundamental level, unification, system, organisation, universality, simplicity, atomism, reduction, harmony, complexity or totality, can bring an urgent grip on our intellectual imagination."

Fault it to the "intellectual imagination" that reductionism persists and ceaselessly continues to tempt us to the hunt. Economics is no exception. Herbert A Simon turned towards psychology for insight as he attempted to overcome mathematical idealism and take into account the boundedly-rational nature of human behaviour. His work looks toward the cognitive heuristic of satisficing as a procedural alternative to the optimising assumptions of neo-classical economic theory. A large battery of simple and cognitively frugal heuristics humans use get though our day have already been identified.

Reductionism has its perils, as Simon recognised: This skyhook-skyscraper construction of science from the roof down to the yet unconstructed foundations was possible because the behaviour of the system at each level depended on only a very approximate, simplified and abstracted characterisation of the system at the level next beneath. This is lucky, else the safety of bridges and airplanes might depend on the correctness of the "eightfold way" of looking at elementary particles.

Like psychology and economics, physics and chemistry also overlap—although here, too, only partially. Physics and chemistry are closely related, and yet their models are based on different sets of assumptions. One operates at a micro-level (physics) relative to the macro-level of the other (chemistry). Chemical phenomena are often not derivable from the physics at the micro-level. From complex interactions emerge macro properties absent in the components. We are barely beginning to understand how and why. Until we do, nature seems to operate with a certain unpredictable whimsy.

Economics, too, builds simple models (often based on optimisation assumptions) to try to understand, describe and predict complex phenomena—such as the market for coffee beans, in which millions of farmers, consumers and intermediaries engage in a chaotic free-for-all. Models attempting to make sense of such activity explain a significant fraction of the

Understanding nature—including human nature—often does not require universal objective knowledge. We are lucky to operate surprisingly well without the experts or perfection



variation but the rest of it eludes analysis.

The “dismal science” can, therefore, boast of only partial success in the battle for explanations and predictive control. Strangely, this impasse—if that’s what it is—has led to new demands from certain quarters for economics to demonstrate that all its assumptions are descriptively valid “at the level next beneath,” in Simon’s words. Simon understood that attempts to reduce economics to psychology will inevitably fail—or, at most, have an ancillary function. There seems (at present) no way around building models of macro-level phenomena that lie at the heart of economics from its own simple assumptions. The deep intellectual roots of psychology are firmly grounded in individual behaviour, while the primary concerns of economics, political science and sociology are located at higher levels of aggregation.

Just as physics contributes to chemistry, so does psychology to the more aggregate-level social sciences. But the latter cannot be derived from psychology. Indeed, research in recent decades shows that aggregate-level social structures, even when populated by minimally intelligent participants, often exhibit important properties absent in the individual agents. Properties of water molecules have little in common with those of hydrogen and oxygen; and the hydraulic properties of water in a cup, river, or ocean bear little resemblance to the perpetual

random Brownian motion of its molecules.

Though the situation would seem to counsel despair, there is an optimistic side to the picture. Understanding nature—including human nature—often does not require universal objective knowledge. We are lucky to operate surprisingly well without the experts or perfection. In other words, the cognitive imperfections of individuals do not preclude rational social order. Crowds and groups of individuals have their own sources of dynamic and implicit knowing. Perhaps the old philosopher-kings and other proponents of The Way have not been superseded. Does our lurching path to wisdom have an unspoken logic of its own? Could we even have reason to hope that the current crop of leaders and oligarchs, in all their shambling, bull-in-a-china-shop behaviours may be part of the truth-seeking mission inherent within us? Could we hope beyond hope that

Putin, Xi, or even Trump may, howsoever unintentionally, be “nudging” us to ultimately do the right thing? If so, let’s keep mum about it; it’s better not to encourage them. ■

Shyam Sunder is the James L. Prank professor of accounting, economics and finance at the Yale School of Management, New Haven