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THE “EVOLUTION THESIS” OF THE EVOLUTION OF THINKING

MANY OF US TALK ABOUT THE EVOLUTION OF THINKING. WOULD WE DO BETTER TO SUBSTITUTE “PROLIFERATION” FOR “EVOLUTION” OF THINKING? THIS AUTHOR THINKS SO. BY CHARALAMPOS FYTROS

Dave Ingram, in the February/March 2012 issue of *The Actuary*, talks about the evolution of thinking. It seems that this evolution has left us, as actuaries, “in a good place,” as long as “the true actuarial method is a blend of all three modes of thinking.”¹ The three modes identified by Ingram are heuristics (simple shortcut strategies we commonly use in thinking) that “are the best of primitive man,” the clinical or expert judgment (the application of experience and expertise to the problem at hand) that “was the path of the middle ages [when] everyone studied the ancient masters,” and the contemporary reasoning-and-evidence-based statistical mode that is the basis of the last centuries’ scientific revolution.

THE EVOLUTION THESIS

Ingram’s position, that actuarial thinking is a blend of all three modes of thinking,

apparently differs from the popular belief that actuaries belong only to the lofty statistical/scientific mode of thinking. Such an intriguing perspective deserves much of our attention. Yet, I believe that his choice of words—i.e., the “evolution” of thinking—runs the risk of letting his position be reinterpreted along the lines of the popular understanding: While humans have evolved to the scientific/statistical mode of thinking by leaving behind much of the heuristics and clinical-based modes, nevertheless (and here comes his contribution) we should, as actuaries, in order to enhance our performance, accommodate and supplement our reasoning-and-evidence-based mode with elements of the earlier modes. Such a thesis (that henceforth I’ll call the “evolution thesis”) preserves the superiority of the current statistical mode of thinking (after all, Ingram talks about the “evolution” not the “regression” of thinking) that should, nevertheless, generously expand

to include elements of the earlier, less sophisticated modes of thinking. In this way, talk of “blended” actuarial decision making is justified without having to abandon the popular belief of the superiority of the statistical/scientific mode of thinking.

In fact, it is unclear if Ingram himself rejects the “evolution thesis,” although in the way I read him, based on his other writings, he clearly dissociates himself from it. The “evolution thesis” is a powerful idea that drives contemporary understanding—think about it this way: once we slough off our concern with what the old masters happened to say (clinical mode of thinking) and with what generally simply works (heuristics), we are left with what can be objectively supported by evidence and efficient reason. To put it into broader terms, once we leave behind our comforting reliance on authority or unsophisticated experiential methods, we become autonomous to pursue our human goals through an empirical-scientific approach that can guarantee a safe passage to objective knowledge.² Rephrased in such a way, the “evolution thesis” seems, I think, self-evident for most of us.

PROLIFERATION INSTEAD

In what follows, I will try to deflate this thesis and argue (admittedly in a condensed

way) that this statistical—or, more broadly, quantitative—mode of thinking is not the apex of the last 50,000 years of our presence on the earth, but just another mode of thinking developed and appended to the continuous spectrum of our practical engagement with the financial world. That said, we would do better to substitute “proliferation” for “evolution” of thinking, a substitute in fact embraced by Ingram himself in his talk of “plural rationalities.”³

To deflate the evolution thesis, let me frame the problem in terms of a clash familiar in the investment world: the contrast between the star investors with the blowing returns and the quant-type investors. The popular understanding between these radically different investment tribes goes like this:

On the one hand, star investors develop and pursue a personal style of investing heavily based on instinctive and gut thinking, a style that frequently involves the use of non-quantifiable, often subjective and qualitative elements (think of Soros who claims he physically feels uncomfortable when the markets he is following are in the sort of flux where there are large fortunes to be made⁴). Obviously, lacking any scientific quant-type objectivity, this approach fails to lead to universal consensus. On the other hand, quant-

type investors, equipped with their proprietary models, are justified to believe they can objectively spot undervalued and overvalued securities (the same way non-life actuaries equipped with their chain ladder models are justified to believe that the estimated reserves are adequate for future claims). In other words, the grounds provided by a properly constructed, validated and applied quant model enjoy a kind of scientific objectivity that naturally presses all other, independent, rational minds of the financial community into universal consensus. In fact, it isn’t even necessary to be a member of the financial community: in the same way the grounds provided by science made not only astronomers but also religious people believe that it was the earth moving around the sun, grounds provided by quant models may assure financial and non-financial people alike that, e.g., the Black-Scholes formula enjoys a fundamental, ahistorical soundness on the basis of which you may “objectively” price an option (even in a *ceteris paribus* context).

TO SUM UP

- Star investors develop a personal style, privately accessible, which heavily relies on subjective, qualitative elements, even on instincts and guts—a style that can only be *imitated* (when sufficiently apprenticed);
- Quant investors develop a non-personal style, publicly accessible, which heavily relies on objective, quantitative elements, excludes instinctive thinking (read heuristics or clinical-based judgments) and only includes rational and empirical analysis—a style that can be *replicated* (i.e., take a taxi driver who has never heard of finance before. Give him an accurate technical manual of a hedge fund’s quantitative investment model and make sure he strictly follows it: he’ll soon be in position to replicate

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the quant's returns in a way that you, an external observer, won't be able to tell that a financially uninformed taxi driver is actually behind the fund's returns).

So, if you were not lucky enough to be born as a "transcendentally talented"⁵ investor, do not lose heart: although such lucky supermen do exist, the rest of us can also do pretty well thanks to universally accessible and equally effective science. No wonder, then, that the rest of us talk about the "evolution" of thinking, which—after many centuries of hard work—finally restores nature's blind injustices.

So goes the popular understanding. Yet, as soon as this picture is articulated, you can't but ask: Is it true? Is it true that I, an outsider, can replicate a hedge fund manager's proprietary quantitative model and achieve equal returns? Or, to put it in actuarial terms: Is it true that my actuarial chain ladder model and my estimation of the adequacy of reserves can be accurately replicated by an outsider thanks to the universal and public statistical/scientific approach (on which I heavily rely)? Is it true, to put it differently, that our statistical/scientific mode of thinking is *all the way down* statistical/scientific and thus, in principle, replicable? I want to suggest that it's not: Quantitative mode of thinking is *not* all the way grounded neither on the empirical given nor on rational analysis but on what could be called a background know-how that supports (and is also exhibited by) the quant's way of practicing. This background know-how structures his world—that is, it disposes him in a certain way that makes possible an understanding of what is significant or not in the problem at hand. It is that "unsaid" in his practice, i.e., the background assumptions, dispositions, conceptual systems and so on, that effectively grounds his actions⁶ and, thus, the subtle particularities of his model too.

NOT QUITE SCIENCE

As Dennis Overbye wrote in a *New York Times* article titled "They Tried to Outsmart Wall Street," "Even the quants tend to agree that what they do is not quite science."⁷ Indeed, it takes more to outsmart Wall Street than constructing a well-grounded scientific model: even as a quant you need to develop a personal style; you need to *take a stand* that exhibits your personal understanding of the problem at hand—which effectively means that I, an outsider, cannot replicate an expert's quant strategy the same way I cannot replicate Jamie Oliver's crunchy garlic chicken no matter how closely I follow his well-grounded recipe.

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Consider the famous quant Emanuel Derman: "Years ago, when I first became aware of the [volatility] smile and hoped to find the 'right' model, I used to ask colleagues at other firms which model they thought was correct. But now ... [I] rather [ask]: When you hedge a standard S&P 500 option, do you use the Black-Scholes hedge ratio, something larger, or something smaller? ... ten years after the first smile models appeared, ... after thousands of published papers, there was still no consensus on how to respond to it. There still isn't."⁸ And there will never be: There is no "correct" model because, deep down, there is no ground (rational or empirical) to fundamentally base such a model. There are only our ungrounded practices. But on such an ungrounded basis it is still possible to develop skills (i.e., it is possible to hedge the option) in a way that discloses your

personal style and background know-how understanding: Should I use the Black-Scholes hedge ratio, something larger, smaller or what else? Or, should I use the chain-ladder method, the Bornhuetter-Ferguson, something in between, or something else?

What applies within the micro-level of a particular mode of thinking (and we have just used as a clue the quant mode of thinking), applies also on a larger scale: take, for example, an insurance company. Ingram identified four different tribes (i.e., four different stand-takers) within an insurance company,⁹ each driven by a different background know-how

and understanding: the marketing and "entrepreneurial" underwriting people with profit maximization as their guiding value; the claims and legal people, motivated by survivorship concerns; the actuarial and "technical" underwriting tribe with risk management as their governing understanding; and, finally, the operations and IT people where pragmatism is the dominant virtue. Each of these tribes has a different style of "productive seeing," of perceiving things in advance in such a way that leads them to see certain features as more important than others.¹⁰ Each of these tribes is differently predisposed to the world: a world full of profit opportunities for the marketing tribe, filled with risk that must be avoided for the legal people, risk-manageable according to the actuaries, unpredictable and uncontrollable for

