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ESG

Greta's expectations – we
must all be stewards now!

EOIN MURRAY

**WEALTH & ASSET
MANAGEMENT**

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DEAR READER,

Welcome to edition 51 of the Capco Institute Journal of Financial Transformation.

The global wealth and asset management industry faces clear challenges, and a growing call for innovation and transformation. Increased competition, generational shifts in client demographics, and growing geopolitical uncertainty, mean that the sector needs to focus on the new technologies and practices that will position for success, at speed.

There is no doubt that technology will be at the forefront of a responsive and effective wealth and asset management sector in 2020 and beyond. The shift to digitization, in particular, will see the speeding up of regulatory protocols, customer knowledge building, and the onboarding process, all of which will vastly improve the client experience.

This edition of the Journal will focus closely on such digital disruption and evolving technological innovation. You will also find papers that examine human capital practices and new ways of working, regulatory trends, and what sustainability and responsible investment can look like via environmental, social and corporate governance.

As ever, I hope you find the latest edition of the Capco Journal to be engaging and informative. We have contributions from a range of world-class experts across industry and academia, including renowned Nobel Laureate, Robert C. Merton. We continue to strive to include the very best expertise, independent thinking and strategic insight for a future-focused financial services sector.

Thank you to all our contributors and thank you for reading.

A handwritten signature in black ink, appearing to read 'Lance Levy', with a stylized, flowing script.

Lance Levy, **Capco CEO**

GRETA'S EXPECTATIONS – WE MUST ALL BE STEWARDS NOW!

EOIN MURRAY | Head of Investment, Hermes Investment Management

ABSTRACT

We need to rethink our economic model – and the new one needs to be premised on stewardship in the broadest sense of the word. Action is required on the part of all participants in the economic system, with the investment industry, as the turntable of capital, having a key role to play. This paper will focus in part on climate risk, more specifically on the “putative” tail risks represented by climate tipping points. It will also consider recent developments in the fixed income markets to see if a market- and climate-friendly innovation can be found to provide the direction and pace of change that we need.

1. INTRODUCTION

On the brink of irreversible climate change, with potentially catastrophic results for our planet, and after decades of denial, dithering, and discussion, the 2020s simply have to be a decade of delivery if we are to rise to Greta's wholly legitimate expectations! Over the course of much of the last century, orthodox economics has been dominated by the study of abundant, perpetual growth, and the appropriate policy response to short deviations that from time-to-time puncture the normal trajectory. Instead, now we must think of our planet and its scarce resources in terms of regeneration. For all the undeniable benefits of the modern world (massively reduced malnutrition, much improved living standards, a huge fall in infant mortality), there has also been a significant cost – an ocean awash with plastic (the Great Pacific garbage patch now covers an area roughly three times larger than France or more than twice Texas if you prefer), the Arctic on fire (in June and July 2019, more than 100 long-lived and intensive wildfires blazed within it), and climate patterns irrevocably changed with dire consequences should we choose to do nothing.

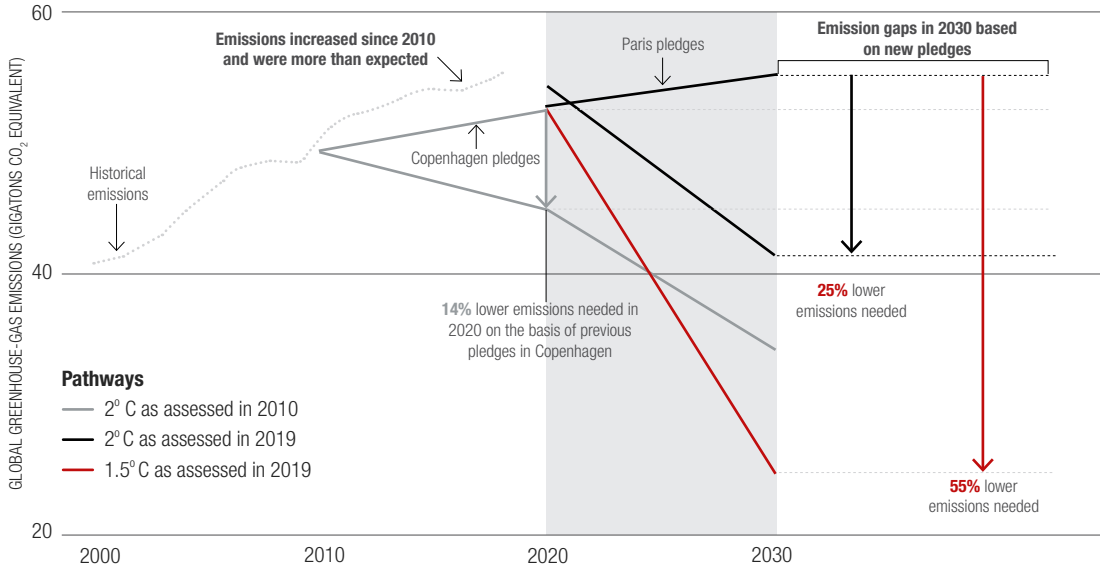
The need for a new economic model is not particularly novel, but never before has it been so relevant. The capital markets must play a role, alongside governments, corporations, regulators, banks, individuals, and communities, and at their heart lies the investment management industry. The link

between environmental, social, and governance (ESG) factors and investment outcomes has been clearly demonstrated across numerous academic studies, and many will now admit that what were once considered to be non-financial or extra-financial issues have become highly financial when an appropriate time horizon is considered. The notion that fairness to all stakeholders is at the heart of long-term success for shareholders has also firmly taken hold, with a recognition that the investment industry has a vital role to play in holding corporate management to account through active engagement. But more than that, today there seems little challenge to the notion that collective action on the part of all players is necessary to deal with the existential crisis that threatens our planet – we are all stewards now.

2. CLIMATE FACTS AND THE MACROECONOMIC ENVIRONMENT

We should pause to reflect on the precise nature of the problem that we face before we consider what actions we must take. Climate change is increasingly playing on investors' minds and its effects are likely to be a defining investment theme for at least the next decade. The physical impacts of climate change are broad-based, encompassing everything from old favorites such as GDP, health, mortality rates, and the capital stock, through new entrants to economic parlance such as water stress, displacement, biodiversity, and species survival.

Figure 1: Insufficient action means that transformational pathways are now required



Source: Nature

There is a greater than evens chance that “empirical estimates based on the variability of the climate in recent decades likely massively underestimate the effects.”¹

Figure 1 illustrates the median of scenarios that meet the necessary temperature goals at global least costs, and includes projected emissions based on parties’ pledges made for the Copenhagen accord and for the Paris agreement. Emissions are aggregated using global warming potentials from the 2007 IPCC (Intergovernmental Panel on Climate

Change) Fourth Assessment Report (with the 5th assessment report revising upward the estimated measures of radiative forcing that drives these warming potentials).² It is clear that ongoing delay increases the gap that must eventually be closed.

Much of the heavy lifting in a macro sense rests upon the notion of a global carbon tax, but its global adoption is fraught with barriers and hurdles, as developed countries, in particular, worry about their economic competitiveness and their labor markets. Meanwhile supranational organizations lack the teeth

Table 1: Impact of climate change on aggregate global GDP

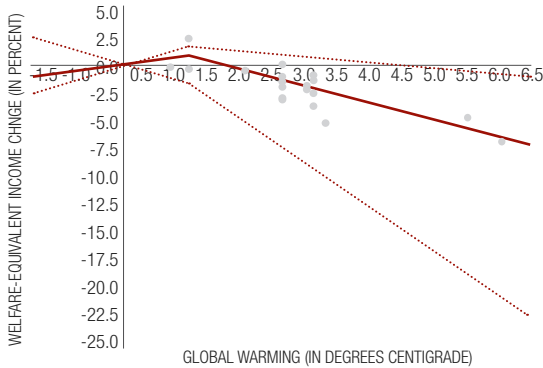
GLOBAL MEAN SURFACE TEMPERATURE INCREASE (DEGREES CELSIUS)	NO OF ESTIMATES	IMPACT ON LEVEL OF GDP (%)	
		AVERAGE OF ESTIMATES	RANGE OF ESTIMATES
<= 2	4	0.3	-0.5 to +2.3
2.5	11	-1.3	-3.0 to +0.1
3	9	-2.2	-5.1 to -0.9
5.4	1	-6.1	-6.1
6	1	-6.7	-6.7

Source: JP Morgan

¹ JP Morgan research, 2020, “Risky business: the climate and the macroeconomy,” January

² Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura, and H. Zhang, 2013, “Anthropogenic and natural radiative forcing,” in Stocker, T. F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Doschung, A. Nauels, Y. Xia, V. Bex, and P. M. Midgley (eds.), Climate change 2013: the physical science basis. Contribution of working group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, 659-740 <https://www.ipcc.ch/report/ar5/wg1/>

Figure 2: The global total annual impact of climate change on total economic welfare income



Source: RSJ Tol in "Review of Environmental Economics and Policy"

to deliver on its implementation. For developing economies, the issue is subtly different, with carbon intense activity still seen as a key driver of economic growth and ultimately of raising living standards. Carbon taxation is thus not only an environmental consideration but a highly social one.

The observed increase in CO2 concentrations since pre-industrial times reflects the burning of fossil fuels, largely in the developed world, for electricity generation and transportation, alongside changes in agriculture and land use. The consequence of this increase has been a steady rise in temperatures, which will continue even if CO2 concentrations are stabilized at current, or kept to some pre-defined, levels.

Objectives to contain temperature rise, such as those agreed at Paris in 2015, now appear challenging, with an increase of 3.5 to 4 degrees Celsius at the end of the century expected if no new policies are enacted relative to governmental commitments, enshrined in legislation by the end of 2017. While there remains uncertainty as to the precise impact on the global economy, it is clear that a business-as-usual approach to mitigation will spur higher temperatures and yet more adverse climate change.

The economic damage of climate change has focused largely on the impact of temperature-related mortality, morbidity, and stress, with knock-on consequences for labor, productivity,

Figure 3a: Top 10 risks over the next 10 years from a severity of impact perspective

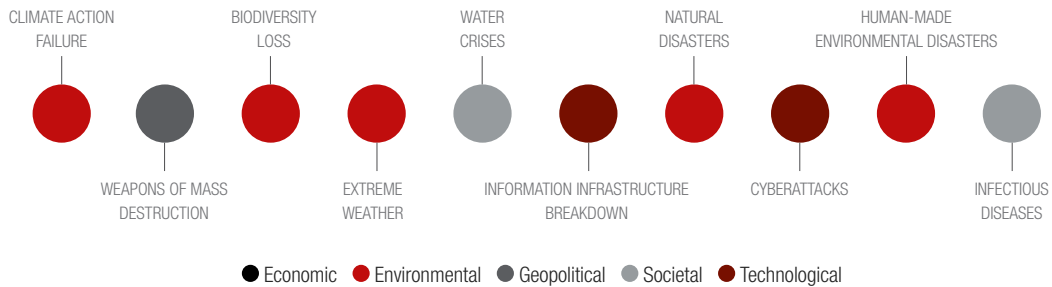
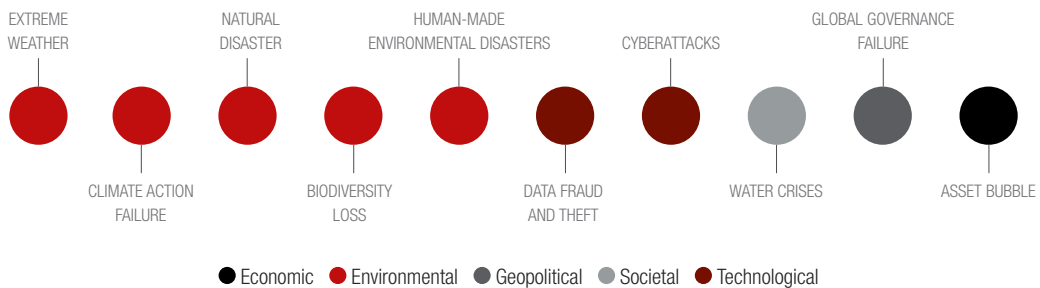


Figure 3b: Top 10 risks over the next 10 years from a likelihood perspective



Source: World Economic Forum

³ IMF Fiscal Monitor, 2019, "How to mitigate climate change," October

and output. Although difficult to quantify, we will also suffer effects of climate change on income and wealth, often related to extreme weather events, as well as the indirect follow-ons of famine, water stress, conflict, and migration.

Attempts have been made to model emissions as an externality to the global economy. The IMF estimated³ that in order to achieve Paris alignment, a global carbon tax should be immediately introduced in 2019, rising to U.S.\$75/ton of CO₂ by 2030. Some scientists today suggest that this may be only half as much as needed, and the likelihood of this happening any time soon feels a long way off. Five sectors (electricity and heat production, agriculture and land use, industry, transport, and buildings) account for the vast bulk of emissions – while some feel the mounting pressure of reallocation of capital today and enlightened stewardship, most are not yet inspired to genuine action.

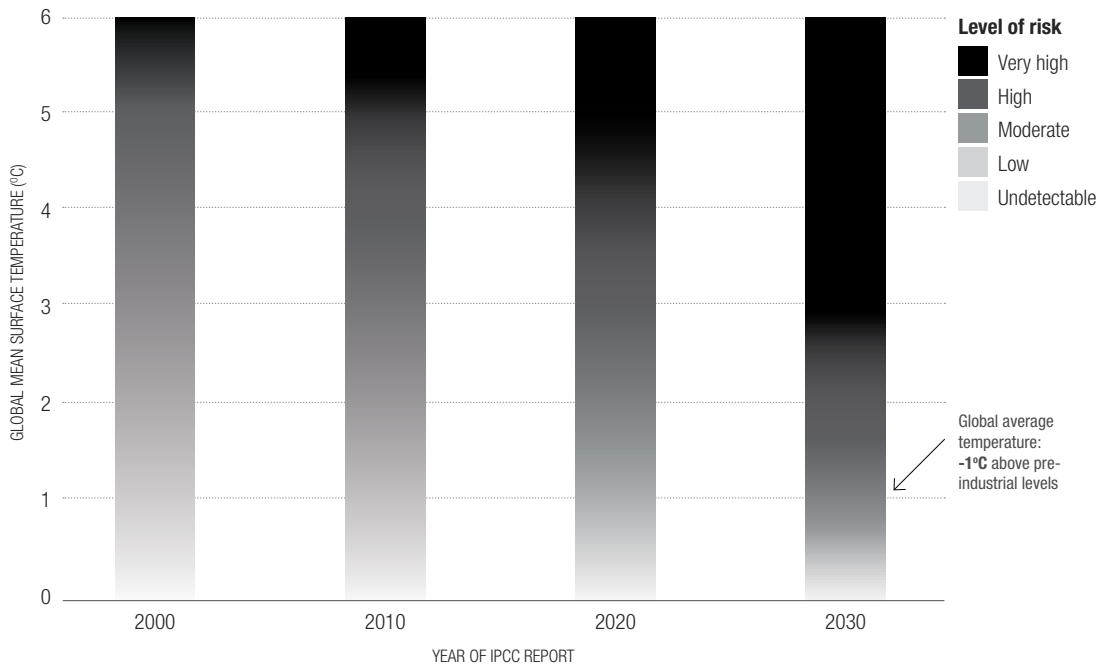
The hope that wind and solar geo-engineering developments can transform these sectors quickly enough seems forlorn at best. Where traditional economics defines human wants as infinite, perhaps we need to rethink our model for a more regenerative one. For every year that the planet misses its carbon reduction target, the greater the effort required in following years.

“
For every year that the planet misses its carbon reduction target, the greater the effort required in the following years.
 ”

3. RISKS

Investment is about the balancing of risk and opportunity. This year's World Economic Forum Global Risks Report recognized the importance of climate change (Figure 3). While noting that downward pressure on the global economy from macroeconomic fragility and financial inequality will continue in the new decade, the WEF report listed four of the top five risks by impact and all of the top five by likelihood as relating to the environment. “Climate change is striking harder and more rapidly than expected ... global temperatures are on track to increase by at least 3 degrees Celsius towards the end of the century – twice what climate experts have warned is the limit to avoid the most severe economic, social and environmental consequences”.

Figure 4: Risk of abrupt and irreversible changes in the climate system



Source: Lenton et al. (2019)

“
*Self-reinforcing feedback loops
 could push the planet beyond
 a threshold that prevents the
 stabilization of the climate at
 intermediate temperature changes.*
 ”

Others have devoted themselves to a deeper unpacking of the opportunities presented by tackling climate change from a returns' perspective (and there are many). It is our intention to focus on risk, but again not on those traditional aspects of risk associated with climate change – physical risk and transition risk. Others have done a better job of that elsewhere, so it is our goal to focus on some of the tail risks that often go unmentioned – after all, by definition, they are of low likelihood.

Conventional studies of risk and uncertainty in the worlds of economics and finance have leaned heavily upon the Gaussian distribution, with its symmetrical representation of probability. Neoclassical finance and portfolio theory are grounded in it, its appeal to simplification being at the same time its greatest strength and weakness – we can describe “risk” and the oft conflated notion of “uncertainty” in one simple metric, yet it does a poor job of describing the actual world that we live in. For convenience, occasional and unpredictable large deviations or outliers are deemed to be sufficiently rare so as to be ignorable. It seems highly likely that taking this approach to understand and model climate change in a financial setting will result in insufficient action – there is simply too great a probability of extreme values that can have an outsized impact on overall outcomes.

The “tail” risk (bearing in mind that we remain unconvinced by the relevance of normality for climate change) that we explore in this paper is the possibility that self-reinforcing feedback loops could push the planet beyond a threshold that prevents the stabilization of the climate at intermediate temperature changes. These are referred to as tipping points.

Individual tipping points include the thawing of permafrost in northern Siberia, large-scale die-offs of coral reefs in our oceans, and ongoing slowdown (and potential eventual reversal) of the Atlantic Meridional Overturning Circulation (AMOC), a key part of global heat and salt transport in our oceans. As Lenton et al. (2019) state: “As well as undermining our life-support system, biosphere tipping points can trigger abrupt carbon release back to the atmosphere . . . (which) can amplify climate change and reduce remaining emission budgets.”

We know that the remaining planetary emissions budget is around 500 Gt of CO₂ just to have a 50/50 chance of staying within temperature rise of 1.5 degrees Celsius. It is estimated that the loss of boreal forest in northern America could use up around 110 Gt of that budget, and Amazon dieback an additional 90 Gt. Add to those emissions from melting permafrost of around 100 Gt, and we have already gone 3/5 of the way. With annual consumption currently at roughly 40 Gt of CO₂, then we will clearly be out of runway very soon.

These tail risk tipping points will have high impact and are perhaps more likely than we would care to admit. Some scientists might see them as unlikely, but that is increasingly not the view of the IPCC, whose reports demonstrate increasing concern at the likelihood of them being achieved. Their 6th assessment due in 2021/22 is expected to show a far greater climate sensitivity than in earlier versions.

With Greenland and the Antarctic ice sheets also melting at an increasing rate, the potential for sea level rise is deeply worrying – we risk profound loss of marine biodiversity and mass migration from the wipe-out of low-lying population centers (and consequent need for eventual migrant resettling). In financial parlance, it is unclear why we would willingly accept such risks for no obvious return. When risk is high, potential damage is significant, and our scope for reaction is limited by the time we have left to intervene – we need to urgently reflect on our custodianship of the planet. This new form of stewardship must be fit for our entire planetary system, and should “include decarbonization of the global economy, enhancement of biosphere carbon sinks, behavioral changes, technological innovations, new governance arrangements, and transformed social values.” [Lenton et al. (2019)] The investment industry, sitting at the juncture of capital allocation, policy advocacy, and corporate engagement, must take a lead in renewed stewardship.

4. CAPITAL MARKETS

The capital markets represent the meeting place of investors and savers with corporates in need of capital to fund productive activity. The purpose of investment – the reason why people invest capital – is to deliver sustainable wealth creation over the long-term. Sustainable, because there is no point making an investment that rises strongly in value this year, only to collapse at some point shortly thereafter. That is the risk investors run when businesses behave in an unsustainable way, both specifically, if they suffer a reputational, governance, or operational failure, and systemically if climate change, political instability, or regulatory action harms their business model. Creating wealth, because this is not just a zero-sum game of winning at someone else's expense. It is investing to earn a share of the new wealth that is created by the investment that can enrich investors, employees, and society. And long-term, both because investing often takes a long time before it pays off and because investors' needs stretch way into the future.

Asset managers have two vital stewardship roles. The first is the way we act as responsible stewards of our clients and beneficiaries' capital with heavy responsibility in the way we allocate it to different investments. The second requires us to be sound stewards of investments once they have been made.

The way we act as stewards with respect to the allocation of capital used solely to be concerned with the consideration of identified financial factors to drive investment decisions – now we must also take account of ESG factors, the E to resolve the climate crisis and the S to mitigate the consequences of having to do so in a just and fair way. Sustainable investment strategies that incorporate such metrics have historically matched or outperformed conventional strategies over most time horizons [Eccles et al. (2014)]. It is also worth noting that there is significant correlation between many traditional quantitative factors and corporate ESG performance; ESG is not a qualitative afterthought.

The way we fulfill our stewardship responsibilities towards the investments we make broadly involves engaging with companies and exercising our responsibilities as stakeholders with influence (bondholders can and should engage too). It brings an additional benefit in terms of knowing the companies invested in inside out, and it is why asset managers (and/or owners) should be willing to support, encourage, exhort, pressurize, and if necessary work with other asset managers to require invested entities to do the things that ensure wealth is created sustainably [Dimson et al. (2015)].

Our notion of stewardship should also extend to the way in which we as investors interact and engage with communities, as well as the policy and advocacy that helps focus the minds of governments and the supranational institutions that also must play a vital part in the solution.



In the face of this activity, many corporates are responding positively. Consider Drax, the U.K. power company, which is choosing to end its use of coal in 2022 to focus on its biomass energy model in the future, well ahead of the governmental deadline of 2025. Additionally, it has demonstrated that it can capture carbon dioxide from flue gas, the first time that carbon has been captured from a wood-burning power plant anywhere in the world. While still a pilot project, it is hoped that it will eventually lead to a larger-scale rollout of the technology. Unfortunately, today, the company has no means to store the captured CO₂, which is simply released back into the atmosphere. Work to do, but these and other recent activities have convinced investors, such as Norway's U.S.\$1 trillion oil fund, the world's largest sovereign wealth fund, to remove the company from its investment blacklist.

Of course, the global biomass industry has strong links to deforestation and could in the long-term be more damaging than the very fossil fuels which it seeks to replace, so a fine balance is needed. In a similar vein, U.S. airline JetBlue has signed up to a new credit facility that is priced according to its performance on environmental and social matters. So-called performance-linked or positive incentive loans see the interest payments on the loan or bond go up or down in conjunction with their achievement of pre-defined ESG targets. Such innovations are intended to help carbon-intensive companies turn their operations greener.

CONCLUSION

Going green to solve the climate crisis sounds simple but won't be easy. In the words of Voltaire:

"Dans ses écrits, un sage Italien
Dit que le mieux est l'ennemi du bien."⁴

Delaying action to achieve a perfect understanding may simply be wasting time, with further activity down that path becoming increasingly inefficient and less productive. "Collabor-action", working together to achieve common goals is a necessity – and for financial institutions, now is the time.

It is becoming increasingly clear that institutional investors no longer believe that they can wait for data and disclosures to catch up – the severity of climate risks, particularly tail risks such as tipping points, demand action today. "There have been two energy revolutions in human history: the agricultural revolution, which exploited far more incident sunlight; and the industrial revolution, which exploited fossilized sunlight. Now we must return to incident sunlight – solar energy and wind ... while maintaining our high standards of living" [Wolf (2010)]. Despite decades of talk, emissions trends continue to point in the wrong direction. We need a new energy system that will lie at the heart of, and drive, a new economic paradigm.

If asset managers are unable or perhaps more unattractively put, unwilling, to adopt a "whatever it takes" model of stewardship at a time of climate emergency, then it will be a fiduciary failure of biblical proportions. Our generation will not live to see the worst of times that we have bequeathed to our successors but will live long enough to be sure of our responsibility for the damage we have done. All of us in asset management must do all we can to ensure that we avoid this fate. This is the new stewardship.

⁴ Ratcliffe, S., 2011, Concise Oxford Dictionary of Quotations, Oxford University Press, p. 389

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