

**PSYCHOLOGICAL AND BEHAVIOURAL
SCIENCES ADMISSIONS ASSESSMENT**

D569/11

Wednesday 2 November 2016



SECTION 1: Text booklet

INSTRUCTIONS TO CANDIDATES

Some words and phrases are shaded in the texts as they are referred to in some questions.

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Task 1

Read the two extracts below, which are taken from a review of a book by Jared Diamond called *Guns, Germs, and Steel: The Fates of Human Societies*.

Review Extract 1

To a non-specialist, the account of human prehistory presented here seems plausible and well-founded. Where plants and animals could easily be domesticated, settled agriculture emerged first and was then diffused to other suitable areas – particularly those enjoying easier migration routes. That such agricultural practices began earlier in Eurasia than in the Americas, Oceania, or Southern Africa ended up giving Europeans a head start in the tool- and weapon-making technologies which facilitated their subsequent invasion and conquest of ‘New World’ societies.

Given the magnitude of the task he has set himself, it is inevitable that Diamond uses broad brush-strokes to fill in his argument. Technological change and the conquests and economic changes that it has wrought over the past thousand years are dismissed as largely a question of geographical accident. Even more compressed is the account of how today’s socio-political institutions have developed over time and in different locations. The large debate that is currently going on over historical explanations of the wealth and poverty of nations in a global context is here reduced to a sub-set of the question about bronze tools and geographic connectedness.

Review Extract 2

Diamond’s most contentious argument is his conclusion that the logical consistency and precision of current discoveries in archaeology and prehistory make it possible to foresee the future of human history as a science. Such a stance has been undermined by other approaches which deny the possibility of establishing general laws, stressing the social, cultural and gendered nature of archaeological knowledge and explanation. Diamond’s use of contemporary ethnographic observations of some peoples to provide explanations of the prehistoric past of all peoples can be questioned on methodological grounds, as can his refusal to place the knowledge he uses within its historiographical context.

There is another set of problems. The history of humans cannot be equated with the history of dinosaurs or glaciers because those natural phenomena do not consciously create the evidence on which we try to understand them. Lastly, human history must be studied on a human scale, so that we can empathise with the past, and see it in the context of our present humanity. Here there is nothing between the minute and the monumental – anecdotal accounts of random individuals at moments in their lives, and the huge sweep of whole peoples and continents across millennia.

Task 2

Read the four extracts below, which give the views of four academics on being a public intellectual in Britain.

A Susie Orbach, psychotherapist and writer

Being able to provoke a different point of view to the standard current ideological or political perspective as played out in conventional newspaper or radio reportage is what a public intellectual does. But it's not merely about being oppositional, because that's too negative. Public intellectuals attempt to widen and deepen the discourse, by adding further analysis and coming at issues in surprising or unexpected ways. There's a trend towards soundbites and oversimplification of issues, especially in the media. We all desire clarity but a way to reach it means understanding at several layers, folding in different kinds of knowledges; in other words complexity. There is a craving for that thoughtfulness which public intellectuals are able to provide. Public intellectuals come from a range of areas and use their expertise to comment more widely than just within their field. They want to make a contribution to public space, and they stick their necks out to do it. You can get your teeth into what they're saying, and that interchange enriches the conversation.

B Mary Beard, classicist

I think the British have always had this view that other countries like France are full of public intellectuals and we are hopeless. I don't agree. To start with, it's an awful phrase. Have you ever met anybody who avowed to be a public intellectual? We don't go in for pontificating to the nation, but if you ask whether we have a vibrant form of political, social and cultural debate in which people who are academic, intellectual, clever – and not just media stars – engage, we have loads of it. If you listen to current affairs programmes on television, they're not short of people who actually know something. They've been hugely important in bringing people who know something into an arena in which they can comment. We're always looking back to some great era of intellectual public engagement when there were essayists writing in serious but popular magazines, but it doesn't seem to me that we're doing any worse. We're probably a lot better than we were 100 years ago. I feel pretty optimistic actually, as long as we keep the universities well-funded and the arts and humanities peopled.

C Brian Cox, physicist and broadcaster

The American theoretical physicist Richard Feynman said a 'physicist commenting on anything but physics is as dumb as the next guy' and there is something to be said for that. Often, scientists feel

they should remain within their area of expertise. But then many people from other disciplines are perfectly happy to offer their opinions on everything. It is incumbent on scientists to step up and be as vocal. Scientists are trained to take great care over drawing conclusions from evidence and it is worthwhile offering that as a perspective in itself. If you don't put forward the evidence-based case, then how is the debate to proceed? You're left only with opinion. The Royal Society's motto is: 'On the word of no one'. The dilemma for the public intellectual is to remember at all times that the point of the project is not to rely on the logical fallacy known as the 'argument from authority'. In other words, you shouldn't stand there and say: 'I am a famous scientist, therefore you should think this.' That is the antithesis of science. People who know things clearly make a valuable contribution to public debate, but I'm wary of iconic people behaving almost like cult leaders. It would be unfortunate if public policy were influenced by people with the biggest following.

D Alain de Botton, philosopher

A public intellectual is someone whose reasoned ideas have an impact on a broad swath of society. This has been disproportionately interpreted as meaning a poet or a writer – the logical conclusion then being that we don't have very many public intellectuals. My feeling is that the term 'public intellectual' should be stretched to include those whose ideas help to determine what goes on in the broad swath of national life, not just poetry or the essay, but in education, housing, health, transport, architecture and so on. Most of the really influential public intellectuals are now employed by the state and we've never heard of them. They don't generally have a public profile, but they have a public impact – I think that's where the confusion often comes in. But what we do have are people like the governor of the Bank of England, who takes big, intellectually founded decisions on the future of the country. The most influential of our public intellectuals are those whose hands are on the biggest levers. For this reason, I'd nominate people like the governor of the Bank of England as the most influential, closely followed by the Secretary of State for Education, whose thinking determines how our children are taught.

Task 3

Read the text below, which is an adapted extract from the prologue of a book called *The Black Swan* by the writer and risk analyst Nassim Nicholas Taleb.

- 1 Before the discovery of Australia, people in the Old World were convinced that *all* swans were white, an unassailable belief as it seemed completely confirmed by empirical evidence. The sighting of the first black swan might have been an interesting surprise for a few ornithologists, but that is not where the significance of the story lies. It illustrates a severe limitation to our learning from observations or experience and the fragility of our knowledge. One single observation can invalidate a general statement derived from millennia of confirmatory sightings of millions of white swans. All you need is one single black bird.
- 2 I push one step beyond this philosophical-logical question into an empirical reality, and one that has obsessed me since childhood. What we call here a Black Swan (and capitalize it) is an event with the following three attributes. First, it is an *outlier*, as it lies outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility. Second, it carries an extreme impact. Third, in spite of its outlier status, human nature makes us **concoct** explanations for its occurrence *after* the fact, making it explainable and predictable.
- 3 I stop and summarize the triplet: rarity, extreme impact, and retrospective (though not prospective) predictability. A small number of Black Swans explain almost everything in our world, from the success of ideas and religions, to the dynamics of historical events, to elements of our own personal lives. Ever since we left the Pleistocene, some ten millennia ago, the effect of these Black Swans has been increasing. It started accelerating during the Industrial Revolution, as the world started getting more complicated, while ordinary events, the ones we study and discuss and try to predict from reading the newspapers, have become increasingly inconsequential.
- 4 Just imagine how little your understanding of the world on the eve of the events of 1914 would have helped you to guess what was to happen next. How about the rise of Hitler and the subsequent war? The precipitous demise of the Soviet bloc? The rise of Islamic fundamentalism? The spread of the internet? Fads, epidemics, fashion, ideas, the emergence of art genres and schools. All follow these Black Swan dynamics. Literally, just about everything of significance around you might qualify.
- 5 This combination of low predictability and large impact makes the Black Swan a great puzzle; but that is not yet the core concern of this book. Add to this phenomenon the fact that we tend to act as if it does not exist! I don't just mean you, your cousin Joey, and me, but almost all "social scientists" who, for over a century, have operated under the false belief that their tools could measure uncertainty. For the application of the sciences of uncertainty to real-world problems has had ridiculous effects. I have been privileged to see it in finance and economics. Ask your portfolio manager for his definition of "risk," and odds are he will supply you with a *measure* that *excludes* the possibility of the Black Swan – hence one that has no better predictive value for assessing the total risks than astrology (we will see how they dress up the intellectual fraud with mathematics). This problem is endemic in social matters.
- 6 The central idea of this book concerns our blindness with respect to **randomness**, particularly the large deviations: Why do we, scientists or non-scientists, hotshots or regular Joes, tend to see the pennies instead of the dollars? Why do we keep focusing on the **minutiae**, not the possible significant large events, in spite of the obvious evidence of their huge influence? Look into your own existence. Count the **significant events**, the **technological changes**, and the inventions that have taken place in our environment since you were born and compare them to what was expected before their advent. How many of them came on a schedule? Look into your own personal life, to your choice of profession, say, or meeting your mate, your exile from your country

of origin, the betrayals you faced, your sudden enrichment or impoverishment. How often did these things happen according to plan?

- 7 Black Swan logic makes *what you don't know* far more relevant than what you do know. Consider that many Black Swans can be caused and exacerbated *by their being unexpected*. Think of the terrorist attack of September 11, 2001: had the risk been reasonably *conceivable* on September 10, it would not have happened. If such a possibility were deemed worthy of attention, fighter planes would have circled the sky above the twin towers, airplanes would have locked bulletproof doors, and the attack would not have taken place, period. Something else might have taken place. What? I don't know.
- 8 Isn't it strange to see an event happening precisely because it was not supposed to happen? What kind of defense do we have against that? Whatever you come to know (that New York is an easy terrorist target, for instance) may become inconsequential if your enemy knows that you know it. It may be odd that, in such a strategic game, what you know can be truly inconsequential.
- 9 This extends to all businesses. Think about the "secret recipe" to making a killing in the restaurant business. If it were known and obvious, then someone next door would have already come up with the idea and it would have become generic. The next killing in the restaurant industry needs to be an idea that is not easily conceived of by the current population of restauranteurs. It has to be at some distance from expectations. The more unexpected the success of a venture, the smaller the number of competitors, and the more successful the entrepreneur who implements the idea. The same applies to the shoe and book businesses – or any kind of entrepreneurship. The same applies to scientific theories – nobody has interest in listening to *trivialities*. The payoff of a human venture is, in general, inversely proportional to what it is expected to be.

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