

Travail préparatoire

Comprendre et reformuler

1. Vocabulaire des textes

Texte n° 1 : The New Geography of Innovation

<i>atop</i>	<i>atop = on top of = sur</i>
<i>Mount Innovation</i>	<i>mount = montagne</i> → les majuscules créent une image selon laquelle il existerait cet endroit magique et extrêmement difficile à atteindre, le royaume de l'innovation; quiconque parviendrait à trôner au sommet de cette montagne serait le roi de l'innovation et par extension, le roi du monde
<i>a climber – to climb</i>	un grimpeur – grimper
<i>the bottom line</i>	expression comptable qui désigne la dernière ligne dans un tableau de comptes, soit celle des résultats, du bénéfice net. Par extension, c'est ce qu'il faut retenir, ce qui compte, ce qui importe, l'essentiel
<i>a map</i>	une carte
<i>I have occupied a front-row seat</i>	j'ai été aux premières loges
<i>exhilarating</i>	exaltant
<i>to weave, wove, woven into</i>	introduire qqch. dans...
<i>a linchpin</i>	(fig.) pilier, élément central
<i>to be etched with</i>	être pétri de
<i>to be willing to do to</i>	bien vouloir/avoir envie de faire qqch.
<i>a downside</i>	inconvenient, désavantage
<i>a powerhouse in basic science</i>	un leader en science fondamentale
<i>ethos</i>	philosophie
<i>outsourcing</i>	délocalisation
<i>to bridge sth</i>	<i>a bridge = un pont; to bridge a gap = combler un fossé; to bridge cultures = créer des liens entre les cultures</i>
<i>to ratchet up sth</i>	augmenter qqch.
<i>a stake</i>	un enjeu; <i>to ratchet up the stakes</i> : faire monter les enchères
<i>a venture</i>	projet, entreprise
<i>at the outset</i>	au début
<i>to stick to one's knitting</i>	se cantonner dans ce que l'on sait faire, ne pas se remettre en question

Texte n° 2 : "The red menace, reconsidered"

<i>red menace</i>	la menace rouge (= les régimes (post) communistes d'Asie)
<i>ahead</i>	devant
<i>to pour money into sth</i>	injecter de l'argent dans
<i>genomics</i>	génomique
<i>staggering (adj.)</i>	ahurissant, stupéfiant
<i>a paper</i>	un article scientifique
<i>a patent</i>	un brevet
<i>to unveil</i>	dévoiler
<i>to foreshadow sth</i>	annoncer, présager
<i>a zero-sum game</i>	un jeu à somme nulle, où ce qui est gagné par les uns, est perdu par les autres
<i>on top</i>	en tête, en position de leader
<i>evidence (indénombr.)</i>	(ici) signe, indication
<i>to lack sth</i>	manquer de
<i>resilient (adj.)</i>	résistant
<i>risk-taking culture</i>	culture du risque
<i>to shore sth up</i>	renforcer, consolider
<i>to hasten</i>	dépêcher, accélérer
<i>a tweak</i>	petite modification, infléchissement
<i>Schumpeterian</i>	à l'instar des théories de Joseph Schumpeter, économiste (1883-1950) qui pensait que l'innovation était le moteur du capitalisme, quitte à produire une destruction créatrice
<i>brittle (adj.)</i>	rigide
<i>top-down (≠ bottom-up) (adj.)</i>	directif, qui vient d'en haut
<i>to shift sth</i>	déplacer qqch. ; ici : délocaliser
<i>a share</i>	une part
<i>stodgy industries</i>	les industries lourdes
<i>blockbuster</i>	best-seller
<i>to falter</i>	(ici) ne pas produire les résultats escomptés
<i>an escape route</i>	porte de sortie, échappatoire
<i>the commodity trap</i>	le piège lié à la dépendance à l'égard des produits manufacturés (par opposition aux services)

Texte n° 3 : "Spying Probe Centers on Electric Cars"

<i>to spy</i>	espionner
<i>a probe</i>	enquête, investigation
<i>to disclose sth</i>	divulguer
<i>to crack the market for electric cars</i>	trouver la clef du marché de la voiture électrique
<i>dismissal</i>	renvoi
<i>an asset</i>	(éco.) patrimoine, valeur
<i>alleged (adj.)</i>	présumé
<i>to be tantamount to</i>	être équivalent à, revenir à
<i>an inquiry</i>	une investigation, une enquête
<i>intelligence</i>	(ici) espionnage, renseignements
<i>a subcontractor</i>	un sous-traitant
<i>a technological edge</i>	une avance, un avantage technologique
<i>to grab sth</i>	saisir qqch., s'en emparer
<i>range</i>	(ici) autonomie
<i>a maker</i>	un fabricant
<i>to scramble to do sth</i>	se bousculer, se précipiter
<i>to swap</i>	changer, remplacer
<i>in the region of</i>	aux alentours de
<i>a bet</i>	un pari
<i>to head sth</i>	être à la tête de
<i>a supplier</i>	un fournisseur
<i>to be party to sth</i>	(ici) connaître, participer, être un acteur de

Sujet n° 1 : l'innovation

Centrale Sujet « 0 » – Filières MP – PC – PSI – TSI

Rédigez en anglais et en 400 mots environ une synthèse des documents proposés. Vous indiquerez avec précision à la fin de votre synthèse le nombre de mots qu'elle comporte. Un écart de 10 % en plus ou en moins sera accepté.

Votre synthèse comportera un titre comptabilisé dans le nombre de mots.

Document 1 : The New Geography of Innovation

At the end of World War II, a single nation stood atop Mount Innovation, and it was the United States. Now, powerful new climbers have emerged to challenge U.S. supremacy across a broad front of innovation. Some may be surprising—Brazil, Denmark, Estonia, Finland, New Zealand, Singapore, Taiwan—while others, such as China and India, are more familiar. The bottom line? Today, the map of innovation has been profoundly redrawn.

As an adviser to governments and organizations on almost every continent, I have occupied a front-row seat as a sometimes exhilarating, sometimes disturbing story has played across the world stage. In one country after another, I have seen innovation woven into national purpose to form a linchpin of public policy that influences national priorities, infrastructure investments, and the development of human capital.

Certainly, America is home to a number of the largest, most vibrant centers of innovation in the world. No other country performs at our level today. But our consciousness is etched with business models of discovery, distribution, and governance

that evolved over long periods of time. Countries like Singapore and the People's Republic of China are hungry, willing to experiment, and have little downside to investing in new opportunities as compared with the United States. China, which is adopting the ethos of fundamental discovery, is destined to become a powerhouse in basic science, for example. Meanwhile, other nations are basing their business models on outsourcing or their ability to bridge cultures.

Ratcheting up the stakes is the fact that today's technology-enabled entrepreneurs are lighter and faster than ever before. An increasing number of ventures are global from the outset, as well as fast, economical and, in my words, "weightless". So the competitive race is accelerating at an ever-faster pace at the same time that the nature of the race itself is changing. If we merely stick to our knitting, we will soon find ourselves surrounded by agile competitors who have learned to play a different set of standard-setting games.

John Kao. *Innovation Nation*, p. 53–54. New York: Free Press, 2007.

Document 2 : The red menace, reconsidered

Can American innovators stay ahead of rising Asian rivals?

WILL China eclipse America as the world's innovation powerhouse? And where will the good, well-paid jobs of the future come from in developed countries if Asia's rise continues?

At the end of the Second World War, American spending on research and development made up half the world's total; today, it has dropped to one third. South Korea, China and India are pouring tens of billions of dollars into scientific fields that range from

genomics to nanotechnology. They are producing staggering numbers of engineers and scientists, who in turn are publishing lots of papers and acquiring ever more patents.

This suggests that Asian innovation will in time surpass America's. Not if Barack Obama has his way. In his recent State of the Union speech, he unveiled an innovation plan with these defiant words: "China is not waiting to revamp its economy... well, I do not accept second place for the United States." Adam Segal of the Council on Foreign Relations agrees.

He argues that America's "unipolar moment" in the global economy may be over, but Asia's rise does not necessarily foreshadow America's decline.

One reason for this is that innovation is not a zero-sum game. One company or country can benefit from the development and marketing of a clever invention, while the robust diffusion and adoption of such inventions can also benefit many others. Mr Segal offers two other broad reasons to think America's economy will remain on top. While accepting that Asia will probably surpass America in absolute spending and sheer numbers of graduates, he remains sceptical about the foundations of Asian innovation. He points to troubling evidence that challenges the quality of the many patents, papers and engineering degrees seen in India and China.

His second, and more striking, argument is that the challengers lack America's resilient, open and risk-taking culture. America must shore up this defence, he insists, pointing to policies that will encourage immigration and early-stage investment in firms, and hasten ideas from universities to the marketplace. With such tweaks, America's Schumpeterian

approach will fare better than the brittle, top-down innovation policies seen in Asia.

That will come as cold comfort to the millions out of work in Europe and America today, thanks in part to companies shifting jobs to countries in Asia. As China and India become better at innovation, where will the good jobs come from in America and Europe? Services, says Henry Chesbrough of the University of California. Forget the old obsession with products and technology, he insists. Already, services make up some four-fifths of the American economy, and some 60% in other OECD economies. The share in poor countries is much smaller.

Citing many examples, from Amazon to GE, Mr Chesbrough shows how even stodgy industries like steel and industrial machinery are becoming knowledge industries. The key is to develop a platform of related services that engages customers with products. Motorola's Razzr was a blockbuster mobile phone, but faltered because it failed to develop an ecosystem of services around it the way Apple did with its iPhone and App store. "Innovating in services is the escape route from the commodity trap," says Mr Chesbrough.

The Economist, January 27th, 2011.

Document 3 : Spying Probe Centers on Electric Cars

PARIS—Three Renault SA top managers at the center of a spying probe are accused of disclosing secrets about the car maker's electric-vehicle technology, according to people familiar with the matter. The company said it plans to take legal action against them.

The allegations highlight the auto industry's high-stakes race to crack the market for electric cars.

The three managers have been suspended without pay and face potential dismissal, Renault said. The French company said the managers were responsible for ethical misconduct "that endangers the company's assets," and would be questioned by top Renault officials next week.

Renault didn't give details on the nature of the alleged secrecy breach. A French government minister, commenting on the allegations, said it was tantamount to "economic war". Officials haven't announced a criminal inquiry into the alleged disclosure.

Benoît de Saint-Sernin, director general of EEIE School of Management, a Versailles-based school specializing in competitive intelligence, said he believed the allegations involved subcontractors, based on discussions his colleagues had with Renault officials. But he didn't say what subcontractors might

be involved or who at Renault said this. "It looks like the managers in question could have given the



Renault has suspended three executives for allegedly selling secrets about electric cars, such as its Kangoo.

subcontractors information that would enable them to gain contracts with Renault," said Mr. Saint-Sernin.

The high-level corporate suspensions highlight how seriously car makers are taking the risks to their intellectual property as they develop electric vehicles. The technology might one day replace the traditional internal combustion engine, and companies with a technological edge hope to grab early market

share. But the batteries the vehicles run on are still expensive and provide only limited driving range.

Cheaper, longer-lasting batteries are key to making electric vehicles a success, and makers are scrambling to improve them. The first electric models on the market can travel only about 90 miles or less before they need either to be recharged or swap their battery pack. And typical packs cost in the region of \$10,000—or a third or so of the price of the car.

Electric cars are a huge bet for Renault; CEO Carlos Ghosn has said they will represent 10% of overall global automobile sales in 10 years.

Renault has said it has a strategy for making electric cars into a mass-market product and—together with its Japanese partner, Nissan Motor Co., which Mr.

Ghosn also heads—has invested €4 billion (about \$5 billion) in the program. Renault plans to roll out four electric models over the next two years.

A senior Nissan official said that “most of the technology that these guys [at Renault] had access to was different from what we use at Nissan. Renault buys it from us as if we were any supplier. They are not party to the battery’s chemistry or intellectual property.”

Since Renault is 15% owned by the French state, the government has a particular interest in its electric-car work. “The expression ‘economic war’—sometimes excessive—is appropriate here,” French Industry Minister Éric Besson said in a radio interview while discussing the Renault allegations.

The Wall Street Journal, January 7, 2011.

Document 4 : An undated cartoon by Aaron Bacall



This really is an innovative approach, but I’m afraid we can’t consider it. It’s never been done before.