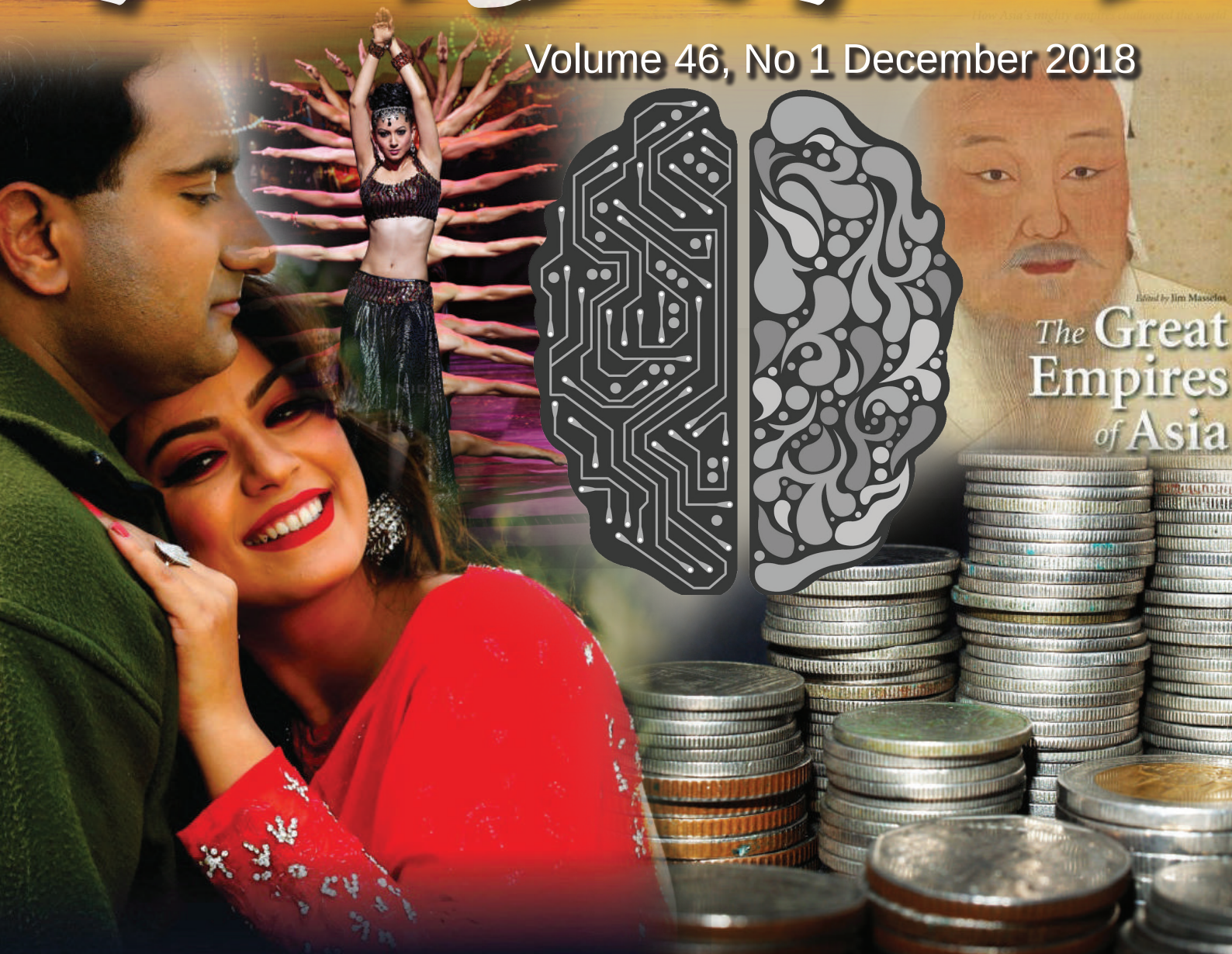


JOURNAL OF THE ASIA EDUCATION
TEACHERS' ASSOCIATION



ASIA

Volume 46, No 1 December 2018



Celebrating 40 Years – Valuing cultural diversity and promoting
intercultural understanding in a networked world



Mission Statement

AETA, a voluntary non-profit organisation, dedicates itself in this Mission Statement to endeavour to:

1. promote Asian Studies in Australian schools whether as a separate discipline, or as part of studies in other disciplines;
2. publish a journal dedicated to providing appropriate input about Asia to school teachers, as well as being a forum for the dissemination of ideas for improving Asian Studies in Australian schools;
3. publish resources which can be helpful in teaching about Asia in Australian schools;
4. promote and/or participate in conferences, seminars, or other discussions which are aimed at promoting Asian Studies or enhancing their quality
5. make representations to governmental or other bodies regarding Asian Studies courses or their content in school curricula;
6. make representations to tertiary institutions regarding Asian Studies in tertiary courses, particularly for teacher education; and
7. disseminate news about this Association's activities and its views about Asian Studies education through the media and through specialist newsletters and journals.

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Contributions to the Asia Education Teachers' Association journal are most welcome. For policy guidelines for submission of articles to the AETA journal go to – www.aeta.org.au/journals.

Please send to:

The AETA Journal Editor
GPO Box 2393
Sydney NSW 2001

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ASIA

Journal of the Asia Education Teachers' Association

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From the Editor's Desk

In this, our last Journal for 2018, we deliver a mixed bag. There is a piece on Intercultural understanding, Information and Communications Technology, and the Challenges of Stereotyping. All of these issues were discussed at the recent Pacific Circle Consortium Conference in Minneapolis in The United States in July. I attended several very interesting workshops on the challenges of racism in America today and how intercultural communication and respect still has a long way to go.

Dapto High School has provided some excellent Library Resources and there is a unit on Celebrations in Myanmar. Dr Susan Bliss has created a delightful unit on Bollywood which I have included.

This year, we have been able to distribute over \$25,000 in copyright payments to our loyal contributors and it is wonderful to see their work being recognized and valued. Do you have a piece that you would like to contribute? Please contact me if you would like to be part of our circle of contributors.

Thank you for your support for the work that we do.

By Di Dunlop [Editor]

Valuing cultural diversity and promoting intercultural understanding in a networked world





INTERCULTURAL UNDERSTANDING IN (CIVICS AND CITIZENSHIP

By Dr. Peg White

As we become increasingly involved in Intercultural Understanding we begin to learn more about our attitudes, the way our attitudes shape the way we behave and the role they play in shaping our world view. There are serious longterm consequences if we hold attitudes that have not matured, because informed knowledge and skills are not able to be processed, to play a role in attitude formation . Inappropriate attitudes prevent us operating effectively in the world of the 21st century, in a world that is interconnected - multinational, multicultural and multifaith.

Despite the fact that Australia's relations with Asia commenced before the last Ice Age, when the ancestors of the Aborigines made their way across the land bridges that linked our continent with Asia, in the past White Australians were prevented from trading with Asia, because the British East India Company had a charter granting it the sole rights to British trade with Asia. Australia, as a colony was expressly forbidden to trade with Asia. This effectively stopped White Australians from developing any skills in foreign relations; Australians operated at the margins of Asia, with a populist population policy of racial exclusion introduced in 1901, through the enactment of the *Immigration Restriction Act*.

Keeping Australia white was a national ideal, held by all colonists of European descent and held by all political parties. Fears against Asia were based on economic, racist and nationalist grounds. Those attitudes are inappropriate today and we realize we need to urgently and very significantly modify them, if we are serious about our intent to become comfortable and appropriately skilled to live and work in an interconnected international environment.

We know much more about the learning process now and can apply skills and understanding to the world of today and tomorrow as globalization accelerates. Globalisation is a process of increasing integration of economic, social, scientific, technological and political activity around the world. Your parents and particularly your grandparents learned very little about Asia, and what they did learn at school was in a framework of defence and fear considerations. Technology did not help them to know and understand our closest neighbour, Indonesia or China, Japan and India, all very important trading partners to us in the future, for our economic well being. Australia is a very young nation. Our experience in external diplomacy covers less than seventy years. Up until then we traded and connected with Britain, who managed all our dealings with the world. In your lifetime your attitudes to the world outside Australia will need to expand to conduct international relations much more diplomatically. That means in a globally connected environment you will need to understand three basic principles:



1. We perceive and do things differently in different cultural contexts
2. We must acquire skills in interacting with those of other cultures, to make sense of a very complex world where change is accelerating
3. We will need to undertake depth studies of significant countries to have the knowledge, understanding and operational skills to participate in this new global environment.

These material and these exercises are designed to assist you to understand the operations involved in the process we call perception. This is the process by which the mind refers its sensations to an external object as its cause. What we see, hear, smell, taste and feel - may be different for each of us'. Later you can apply the skills you are developing, to help you to perform and function effectively in a world environment and become more aware of India and its scientific, technological and religious contribution to the world. As you become acquainted with and skilled in these processes, you will find your attitudes begin to modify, undergo change, and mature as your knowledge helps you to understand and accept difference, knowing the reasons why it occurs.

Try this task



Close or cover your left eye-what do you see? You can see your nose with your right eye. Now close your right eye -you see your nose with your left eye. Open both eyes - your nose has disappeared. When you open both eyes you think you no longer see your nose. Actually your nose is there in your field of vision, but you fail to register it. Practise looking ahead and trying to see your nose with both eyes open. You have simply learned to 'not see it'. You have learned to filter out the information that interferes with what you **want** to see. This process starts to link you into understanding how people's ideas and attitudes develop, change and mature over time. Sometimes you have to make a real effort to absorb new information.

It is necessary to **consciously concentrate** to develop knowledge and skills appropriate to living in the international world, of which we are now a part. You will probably spend most of your working life enmeshed in an interconnected world environment, - often travelling on a regular basis to countries with significantly different cultural values from those with which your parents and especially your grandparents are familiar, or with which they have not had to consider or accommodate in their world view.

Do you think about the way your brain operates as you observe, think about and come to understand? The ways we think, feel and do things is related to the physical and cultural environment in which we have been reared. This environment plays an important role in the way we make sense of our world. The following exercises will help you to think about some of the attitudes you hold about difference; attitudes created out of ignorance contribute to misunderstanding and conflict. Often your attitudes have been learned unconsciously as a small child, particularly through involvement with significant people in your life. Behaviour develops out of the ways we are taught in the society in which we have been socialized. Within Australia fear of difference, dictated in the White Australia Policy, or Immigration Restriction Act of 1901 at the time of Federation, still resonates, and even today continues to be politically manipulated. Such fear will reduce our ability to operate in the international environment of the future.



Cultural Perception

Perception is a process by which we make sense out of the information which comes to us from the environment. It helps us to categorise that information. What do you see when you look at this drawing?



Fig. 1: Picture designed by the American psychologist, EG Boring

Do you see the elegantly dressed young woman with the back of her head turned towards you? Or do you see an old woman in profile with a large nose? Probably at first you will see one woman and won't be able to see the other immediately. However, as you study the picture you learn to link the responses of your nervous system to the stimuli of the ink marks. You are then able to see either woman at will, and with concentration you may be able to see both at once. What this exercise demonstrates is that what we perceive does not exactly reflect the world. And no two people 'see' the world exactly alike because each of us filters the stimuli we perceive. The signs that have meaning or importance to us are the ones that register. Selection is occurring. We respond only to certain stimuli. The processes involved here are part of everyday life. Perceptions are always different. Sometimes the gap between two individuals' perceptions is small; sometimes it is huge and most of the time people are not aware of the existence of a perceptual gap. We not only 'omit' certain signs, we also 'add' signs which we feel seem to belong, as in the case of rumour.

Perception is a process by which we make sense out of the information which comes to us from the environment. It assists us to categorise. It can involve feelings, ideas, sensation, taste and understanding. In the process of perception the mind refers the sensations it experiences to an external object, as a cause. Culture plays an important role in the way we perceive, but inappropriate perceptual filters block our ability to acquire new knowledge and engage with people from other cultures.

(Box this)

Learning to detect stereotypes in the media

Study the following cartoon

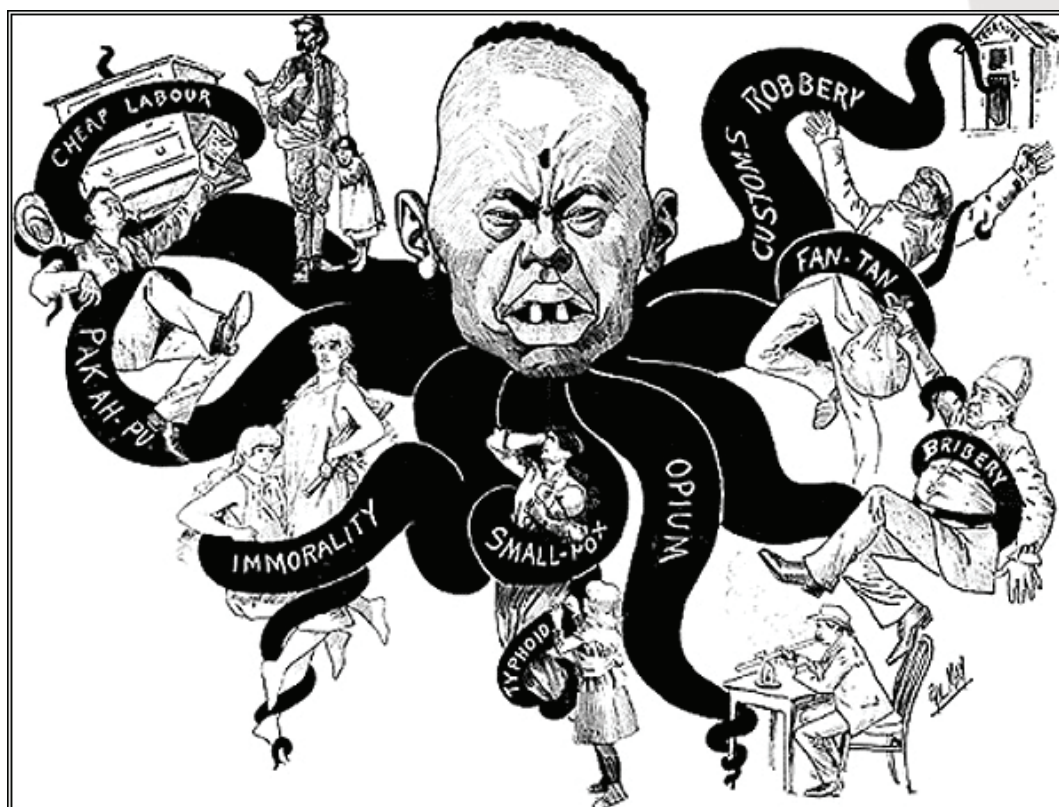


Fig 2.6 "The Mongolian Octopus - his grip on Australia" This vicious cartoon sums up the anti-Chinese campaign. The Bulletin 1886

The cartoon of the Mongolian Octopus was published in the Bulletin in 1886. A very complicated issue was being reduced to a simple image or negative stereotype.

1. Are the facts accurate?
2. What evidence exists which may suggest that the facts are inaccurate, biased, or selective?
3. Does this cartoon intend to influence your attitudes? Does it use propaganda, stereotyping or sensationalism?
4. What effect would the reporting in this cartoon have on peoples' understanding of Asia when they already feel antagonism towards those people?
5. Comment on the tone of the verbal and non-verbal language used. Does it try to influence your attitudes? In what way?
6. Does the article try to sensationalise an issue in such a way that it could harm our relations with Asia or a specific country in Asia?
7. How important is the role played by the press in helping us shape our attitudes towards Asia?

Cultural experiences can cause large perceptual gaps. What people see as being important, the way they view the world, and the interpretation they place on meanings, can depend on a person's cultural background, on the values, beliefs and attitudes generally held in that person's society and on age and experience. Inappropriate perceptual filters tend to block new knowledge acquisition and engagement with others, of different cultural background. As a consequence, in the process of cross-cultural contact, we lose or ignore many of the features of, and information available through the experience. Try to become more skilled in observing and selecting multi-dimensional images in cross cultural experiences; you need to check and reflect on those experiences to make sure your filters are substantial. Are you observing, processing and reflecting on all the sensory information contained, and taking this information on board to develop your maturing attitudes and skills in cross cultural human relationships? Are you pausing to analyse images and ideas and connecting them with appropriate word (semantic) analysis, repeating the experience to strengthen your filters?

The following diagram shows how you process information as a result of your experiences

The process of generating multi-dimensional imagery at the site of cross-cultural contact through both external and internal experience.

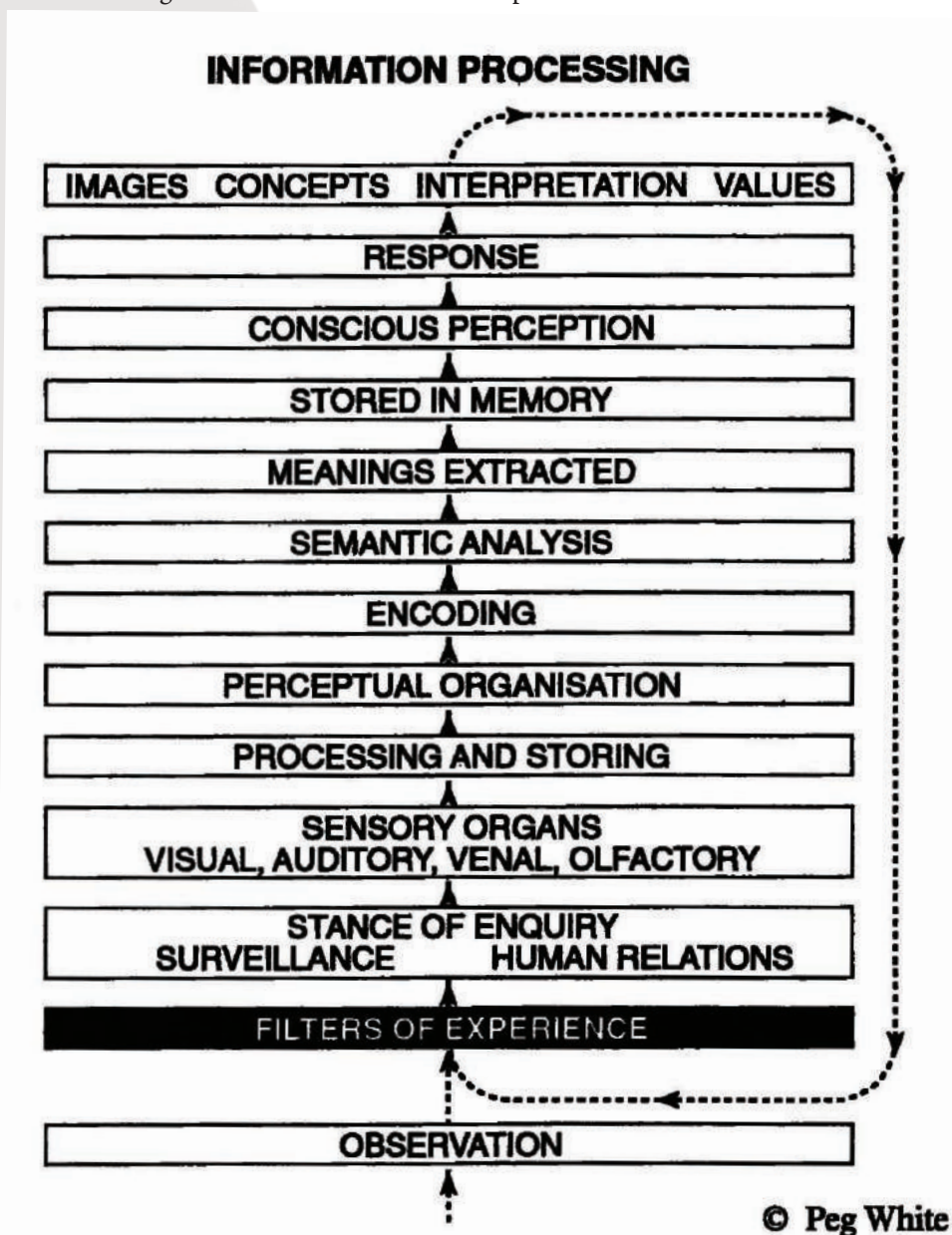


Fig. 2. Information processing at the site of cross cultural contact, through both external and internal experience.

How stereotypes are formed

Without knowledge the brain does not properly encode. If the experience is fleeting, very superficial, or the knowledge is incorrect, then stereotypes tend to form. In other words when people have no knowledge of another society they often focus on a cluster of beliefs about that society which are incorrect and do not use their observational skills. These beliefs are then used to make predictions about how that society or its people will act. Stereotypes form the basic blocks of human learning.

According to a psychologist called Ausubel they tend to become 'advance organizers' to help you structure the way your brain processes information. Therefore it is important that you take the time to process information carefully, thinking about it, returning to the material on several occasions to help you reflect and develop more mature *filters of experience*. Often feelings involved in *stereotypes* are handed down from parents to children and damaging attitudes are ingrained in children when they are very young. These are called *negative stereotypes*.

Stereotypes are simplifications and can seriously interfere with the way people communicate with each other. Cartoons about national issues tend to do this. You must be alert to the dangers of this and back up your understanding of people whose national identity is different from yours, with knowledge and research. Even when a person proves to be totally different from the generalisation you hold, you will still tend to cling to the original general impression. Such techniques were used to support the "White Australia Policy" and still resonate, to be politically manipulated today.

Today and in the future, as we learn to live in an international environment, it is necessary to learn to process complex information more appropriately and reduce these fears. It requires effort to develop a more global consciousness, and be willing to engage with ideas from other cultures.

Human beings need a sense of belonging to a group. The boundaries of what forms a group are defined by something being shared. Quickly look around the class and mentally select who you would like to have in your group. What principles are you using to make your selection?- appearance, age, gender, sporting prowess, like thinking, race, etc?. The sense of belonging to a group is a necessary condition of being human. At times these groups can be very narrow and hurtful. Where you live, your social status, education, family politics and religious beliefs all contribute to the boundaries of what makes a group. Race becomes a very important factor in defining groups or clans, because physical differences are very visible. Some people believe that some races are and will forever be inferior to others. Such people are called *racists*.

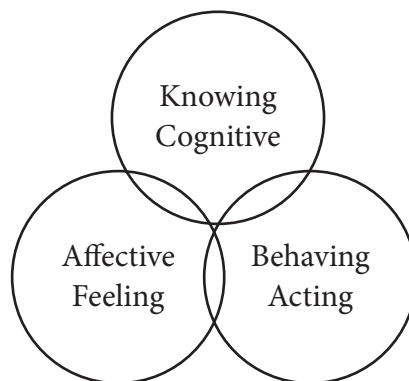


https://commons.wikimedia.org/wiki/Category:Stereotypes#/media/File:Free_things.jpg

Understanding the Role of Attitudes

Study the following diagram. It shows the relationship between the three main components of attitudes.

Diagram 3



If the knowing element is absent we act on emotions

Our attitudes play an important role in our learning because our actions tend to be governed by the attitudes we hold, and these tend to be emotional. We learn to respond to situations in a certain way because of the way we view our world. These attitudes don't occur naturally (i.e. they are not innate); they are acquired through experience, especially through contact with others who have very strong attitudes. Parents, teachers and other people who are significant in your life, all of whom have emotional involvement, can play an unconscious role in your attitude development. Attitudes are learned, particularly through contact with other attitude holders. For you to understand how attitudes develop is very significant when you are dealing with matters relating to intercultural understanding. So make sure you understand what attitudes are

how attitudes are formed
what attitudes do

Attitudes help you to categorise the world. Over time you learn to respond to a situation or view the world in a certain way. Your opinions or views are less emotional than attitudes. If you understand the complex relationship between your attitudes and your behavior you will begin to recognize the appropriate way you would deal with new information presented about race, even if you feel uncomfortable about the way the information may challenge the values you hold.

Box this

The attitude of many Australians at the time of Federation (1901) is summed up in the words of the Prime Minister Edmund Barton

"I do not think... that the doctrine of the equality of man was ever intended to include racial equality... the doctrine of the equality of man was never intended to apply to the equality of an Englishman and the China man".

Does this suggest we were seeking an harmonious relationship?

The extent to which attitudes can undergo change is demonstrated in Australia's maturing foreign policy. In 1986, the International Year of Peace. The Dept. of Foreign stated Australia's foreign policy "has at its heart the maintenance of peace and the prevention of war".

1. Write a statement on Australia's Foreign Policy today . What change is evident in our attitudes? What is China's position in the world today? What position do you think it will hold in 2050? Why?
2. How have our national political attitudes undergone or are undergoing significant change?

The three main ingredients of attitudes are:

The belief (cognitive) element. This is what is called *evaluative* e.g. good or bad

The feeling (affective) element. This involves liking or disliking, and is at the centre of attitude formation

The action (conative) or behaving element. Given the way we evaluate, like or dislike, we can start to predict the way we will behave.

Examples of the three components of attitudes are:

Cognitive: All the people that live near me are white Australians - knowing

Affective: I want people from other nations to live near me - modifying, feeling

Behavioural: I would like to talk to people from other cultures - acting

Our actions and/or behavior tend to be governed by our attitudes. We really begin to understand how our brain functions as we deal with issues about race. We tend to focus on the facts that have shaped our earlier held views and dismiss or ignore the substantial new information which helps us to be more informed, or fail to process it adequately because it makes us feel uncomfortable; contradictions emerge which tend to confuse us. However we need substantial knowledge to inform our attitudes as we engage with others in the twenty-first century and beyond.



Countries like India and China outproduced Europe in the past and are on the way to doing so again. They demonstrate great vitality not only in the economic sphere, but also in the arts, religion, literature and science.

The following chapters will help you to understand why and how we can improve our diplomacy with, and understanding of the people of Asia through a case study of India. Some of the information will surprise you.

Activities

1. Think about some of the attitudes you hold. Do you ever make comments about people of other racial backgrounds, which deep down you know are not correct? Can you now explain processes are at work, to make you do this automatically?
2. Draw up a list of customs and traditions you like to uphold. Compare your ideas with other people in your class. If significant ideas emerge that appear strange to you, can you account for reasons why?
3. Follow the cartoons in a newspaper with which you have access for a week or so. Choose any which you would consider to be trivializing issues about race and analyse the methods used - facial expression, size, negative implications, verbal and non verbal communication.
4. Listen to some news broadcasts from political leaders. Note down how leaders try to manipulate international situations to play on fears for political advantage. To what extent are they engaging in this to gain popularity and votes?
5. The story of immigration of people from Asia to Australia is long and involved. To what extent have newspapers over the past 120 years written stories designed to appeal to emotional fear to help sell newspapers, ignoring the facts?
6. Can you learn to see the world from the point of view of others? Is it a desirable skill in international studies?
7. Form a group and discuss the following: "Do you think mass communication technology can assist in development of understanding between nations and races, provided you are made aware of the ways it can and is misused to shape attitudes and perceptions?"



Information and Communications Technology



Work and Enterprises Economics, Business Studies, Geography, Science, Mathematics

by Dr. Susan Bliss

*The **Fourth Industrial Revolution** or Technology Revolution, is transforming people, organisations, places and environments. It alters the way humans produce, consume, communicate, move, generate energy, and interact with one another. Some of the greatest challenges to the Technological Revolution are privacy, security, cyberbullying, inequality in access to ICT, and the changing relationship between humans and machines. Additionally, uncertainty surrounds the impacts of ICT on enterprises (private and public), the future of work, and information shared by social media, such as Facebook data used by Cambridge Analytica in the 2016 US elections.*

Adapted: http://www3.weforum.org/docs/GITR2016/WEF_GITR_Full_Report.pdf
<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>

Today, the gigantic players in the 'tech industry' encompass everything from semiconductor factories to retail stores, and from cleaning laundry to creating drones. These diverse products and services embrace the entire world of business.

<https://sloanreview.mit.edu/article/every-company-is-a-tech-company-and-tech-is-no-longer-an-industry/>
Image http://webtest.isg-one.com/images/default-source/default-album/home-t3---achieving-service-art-science.jpg?sfvrsn=6457e631_0

Curriculum Syllabus

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IS A SCHOOL SUBJECT AND A GENERAL CAPABILITY INTEGRATED ACROSS LEARNING AREAS K-12.

Information and Communication Technology (ICT) including hardware and personal digital devices, software, and systems that manage, store, process, create, produce and communicate information, has become an important part of everyday life.

<https://syllabus.nesa.nsw.edu.au/support-materials/integrating-ict/>. ICT is a major contributor to all industries and ICT skills important for future employment.

HUMANITIES AND SOCIAL SCIENCES

Students develop ICT capability when they locate, select, evaluate, communicate and share **geographical and historical information** using digital technologies and learn to use spatial technologies, exploring the effects of technologies on places, on the location of economic activities and on people's lives. They also access and use digital technologies as an investigative and creative tool to locate, evaluate, research, plan, share and display **economics and business data**, information and ideas.

Students learn about and have opportunities to use **social media** to collaborate, communicate, share information and build consensus on **political, legal and social issues**, reflecting on safety awareness and **ethical protocols** for ICT use.

Through humanities and social science studies, students come to understand the geographical, environmental, social and **economic changes** produced by the increasing use of technology.

ECONOMICS AND BUSINESS STUDIES: BUSINESS STUDIES

Contemporary Business Issue: Big Data; predictive modelling; Internet of Things (IOT); ICT integral to management, processes, operations and marketing; ICT and future of work; ICT to maintain sustainable competitive advantages, e-commerce and use of social media.

Sources

<https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/information-and-communication-technology-ict-capability/>:

https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/hass/?strand=Inquiry+and+skills&strand=Knowledge+and+Understanding&capability=ignore&priority=ignore&year=12102&elaboration_s=true

Image <https://fossbytes.com/hackers-mining-cryptocurrency-using-other-computers/>

OVERVIEW

Information and Communications Technology's (ICT) exponential growth rate is linked to over 4 billion people acquiring access to the internet, 3.2 billion using social media, and 5.1 billion possessing mobile phones. In 2018, the average internet user spent 6 hours each day using internet-powered devices and services, and it is predicted that by 2020 over 26 billion internet connected devices (**Internet of Things - IOT**) will link people and organisations, to objects equipped with sensors, data processing functions and communication abilities.

Technology is reshaping our lives economically, socially, culturally, politically and environmentally. Booking a flight, buying a product, watching a movie and playing a game, can be performed remotely. Technology produces music hits, navigates journeys with GPS, identifies people from photographs, and performs monotonous and dangerous tasks. ICT has infiltrated into peoples' daily lives with Apple's Siri, Google's OK Google, Amazon's Echo and China's Go Player. In fact, **Artificial Intelligence (AI)**, beat the human world champion in the board game of 'Go'.

The explosive growth of ICT has ushered in the fourth industrial revolution, exemplified by new technology that has transformed work and enterprise. For example AI, robotics, predictive modelling, **3D printing, nanotechnology, energy storage, biotechnology, augmented reality and quantum computing.**

Social media provides a voice for displaced and isolated people, erases national borders and has the potential to contribute to Sustainable Development Goals (2030) such as improving the wellbeing of 'all' people. However on the negative side, biotechnology could lead to designer babies and innovations eventuate in loss of jobs. Additionally, AI could be used to create and deploy chemical and nuclear weapons, and private data distributed around the world.

QUATERNARY SECTOR

The **quaternary sector** is the **knowledge-based** part of the economy, including **services** such as **information technology, information generation and information sharing.** The sector provides these information services via computing and ICT.

The expanding quaternary sector has contributed to: a country's economic growth; businesses' competitive advantage; peoples' improved wellbeing; government's efficiency; and evolution of the new global economy with internet based trade and commerce (e-commerce) operating across national borders, and employing a global workforce.

Background image <https://www.wired.com/story/what-is-sinkholing/>

YOUTUBE:

What is ICT? <https://www.youtube.com/watch?v=u-hu6lMemB0>

What is ICT? Empowerment Technologies K-12 <https://www.youtube.com/watch?v=OdhaRTwcjs8> What is quaternary sector of economy? https://www.youtube.com/watch?v=iz2z9xi_zrg

RISE OF MASSIVE TECH ENTERPRISES CHANGING THE WORLD

Over the past 20 years, Exxon Mobile, General Electric and Walmart shared the top-five ranking places as the world's largest global companies. However by 2018, the five most valuable listed companies were **technology giants** - Apple, Amazon, Alphabet (Google), Microsoft and Facebook. Today few people survive without Google's search engine, Facebook's newsfeed and Amazon's one-day delivery.

In 2018, the top 20 largest tech giants globally are worth \$5.9 trillion distributed between US (75%) and China (25%). China's tech giants **Baidu**, **Alibaba** and **Tencent (BAT)** are now threatening the dominance of US tech giants Facebook, Amazon, Netflix and Google (**FANG**). China, referred to as the **Silicon Dragon**, is no longer copying ideas from the West, but ideas now travel from China to the West. *'China is getting ahead in many fields that are revolutionising tech, from artificial intelligence to Fintech to virtual reality to the sharing economy and retail e-commerce'*.

<https://www.forbes.com/sites/rebeccafannin/2018/01/01/watch-for-chinas-silicon-valley-to-dominate-in-2018-and-beyond/#68296eea5f1d>



Largest ICT companies by revenue, are associated with: computer hardware and software; electronics; internet; e-commerce, computer services, mobile devices, cloud computing and home entertainment.

Apple logo <https://www.logodesignlove.com/rob-janoff-apple-logo-designer>

Source: <https://www.trendrr.net/8626/largest-tech-companies-world-famous-it-software-richest/>

AGE OF TECH UNICORNS

A **UNICORN** is a private **startup company** valued at over **\$1 billion**. In 2018 there were 279 unicorns with a total valuation of \$1 trillion. The largest unicorn was Uber valued at \$68 billion (US), followed by **Didi Chuxing \$56 billion (China)** a car-sharing, transportation network company. Just like Uber, Didi Chuxing allows consumers to use its mobile app to order a car, and its transport services covers 400 cities with 400 million users. Additionally Xiaomi valued at \$45 billion is a Chinese electronics company that has evolved into the 5th largest smartphone producer globally.

[https://en.wikipedia.org/wiki/Unicorn_\(finance\)](https://en.wikipedia.org/wiki/Unicorn_(finance))

Where unicorns roam:

- US: 50%
- Asia: 41% (e.g. China, India, South Korea)
- Europe: 8%

Currently, Asian unicorns are increasing at an inconceivable speed.

The mythical unicorn represented the statistical rarity of these ventures. However larger companies have emerged referred to as **DEDACORNS** worth over \$10 billion and **HECTOCORNS** valued over \$100 billion. The success of these companies is contributed to social media combined with technological innovations such as **smartphones** and **cloud computing**. The latter, is a remote server on the internet that stores, manages and processes data, instead of on a personal computer.

Market share of unicorns:

- E-Commerce/Marketplace industry (25%)
- Internet Software and Services (20%)
- Financial Technology (FinTech) (10%)

Fastest growing sectors:

- Cybersecurity (50%)
- Real Estate (36%)
- Big Data (27%)

Successful tech unicorns maintain '**network orchestrators**' where peers create value through **sharing**, such as:

- **economic** and **social** activity via online transactions (e.g. E-commerce)
- **information** that enables comparisons (e.g. TripAdvisor)
- **transactions:**
 - **peer-to-peer** (e.g. AirBnB)
 - **business-to-person** (e.g. Amazon, Alibaba)

As a consequence of **technological unicorns**, such as **e-commerce** and the **online marketplace** (e.g. eBay), the physical locations of retail stores has caused a decline in shopping malls.

Background: http://www.fantasyfic.com/anthology/cover/grey_unicorn.wip1.jpg

CHINA'S TECH UNICORNS AND FINTECH EXPLOSION

GLOBAL ICT CENTRE OF GRAVITY appears to be shifting from US to **China**. Chinese companies, once mocked as copycats, are now viewed as potential global victors. Today, China is both the world's largest importer and exporter of electronic/ICT products. The abundance of low-skilled labour in China led to its reliance on tech imports. These items are assembled into end-products and then exported.

China's gigantic **DECACORNS**, Baidu, Alibaba and Tencent, commonly referred to as **BAT**, are the three big Internet and Big Data industries:

- **Baidu**, called the Google of China, collects data based on user search
- **Alibaba Ant Financial**, the world's largest E-commerce company, owns transaction data and credit data
- **Tencent**, referred to as the Facebook of China, collects social network data
- In May 2017 China boasted 10 unicorn companies valued at US\$435 billion-about the size of the gross domestic product (GDP) of Belgium.

<https://assets.chinatechnews.com/wp-content/uploads/unicorn-china.png>

FINTECH REVOLUTION IN CHINA

Financial technology (FinTech) uses new technology to deliver financial services. The \$US1.7 trillion financial services industry, referred to as a tsunami of technology, disrupts the way people and organisations save, invest, spend and borrow.

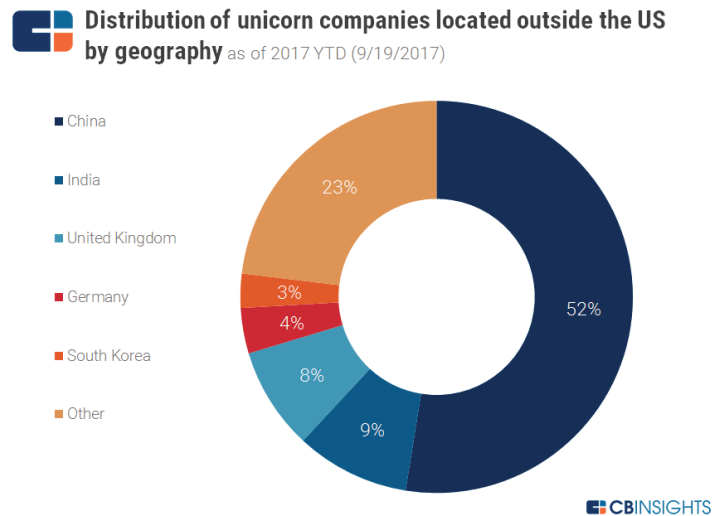
China is leading the world in FinTech with currently 27 FinTech unicorns worth over \$US1 billion.

Background: http://www.fantasyfic.com/anthology/cover/grey_unicorn.wipl.jpg

ASIA'S TECH UNICORNS

The unicorn landscape has changed from five years ago, when it was the US and Europe producing billion-dollar companies. Today, China is quickly catching up to the US and has far surpassed Europe.

<https://www.techinasia.com/2017-new-unicorns>



<https://s3.amazonaws.com/cbi-research-portal-uploads/2017/09/19134557/INTl-distribution-image-1.png>

Asia is inching out of Silicon Valley's shadow with \$US76 billion startups at the end of 2017. The Asian Region of about 4.5 billion people accounts for 40% of the total unicorn value worldwide, and with increasing internet penetration and wealth in the Region, the list of unicorns is anticipated to rise



YouTube

- 'Facebook Bank' or 'Amazon Wealth Management'. Where next for the tech giants? <https://www.youtube.com/watch?v=uhmCLYQft9Y>
- China: The Next Fintech Frontier https://www.youtube.com/watch?v=46A2yi6_k2E
- CNN Unicorns <https://www.youtube.com/watch?v=aDmEsw8OSEk>
- Ever-growing tech giants have changed the pace and price of life in Silicon Valley <https://www.youtube.com/watch?v=p0v3a0lS68Y>
- Hunting South-East Asia's Next Unicorns (Vishal Harnal) <https://www.youtube.com/watch?v=eyTFOVeEH7g>
- Inside a Chinese tech giant https://www.youtube.com/watch?v=T2ym_MnJKCU
- Tech Giants vs. Startups: Enemies or Partners? <https://www.youtube.com/watch?v=eG6MXBO-kX4>
- Tech Talk: The Unicorn Club: Billion Dollar Startups <https://www.youtube.com/watch?v=lyca-YoRkww>
- The Rise of FinTech in China https://www.youtube.com/watch?v=CryJ1QsMQ_g
- Why Singapore is Hot for Startups <https://www.youtube.com/watch?v=G3Ic53SYnkU>

MEASURING ASIA'S DIGITAL DIVIDE

The **ICT Development Index (IDI)** benchmarks important indicators for measuring the information society, and the **Networked Readiness Index (NRI)**, referred to as **Technology Readiness** measures the ability of countries to exploit opportunities offered by ICT and the readiness of individuals, businesses and governments to use ICT. These indexes note that there is a **digital divide** globally, as well as across the Asian region.

ICT DEVELOPMENT INDEX

COUNTRY	2010 RANK	2010 VALUE	2017 RANK	2017 VALUE
 South Korea	1	8.64	2	8.85
 Hong Kong	13	7.41	6	8.61
 Japan	9	7.73	10	8.43
 Singapore	11	7.62	18	8.05

ICT DEVELOPMENT INDEX

(IDI) is based on 11 indicators in three clusters

- **ICT readiness** (infrastructure and access)
- **ICT use** (intensity)
- **ICT capability** (skills).

In 2017, out of 175 countries the top ranked Asian country was South Korea (2nd) that contrasts with low ranking Afghanistan (159), Pakistan (148) and Bangladesh (147).

NETWORKED READINESS INDEX

ASIAN COUNTRY	GLOBAL RANK
Singapore	1
Japan	10
Hong Kong	12
South Korea	13
China	59
Myanmar	133

NETWORKED READINESS INDEX

(NRI) focusses on four main categories

- **Environment**
- **Readiness**
- **Usage**
- **Impact**

Out of 139 countries, the top performers included Singapore and Japan. Singapore possessed the highest mobile phone penetration and Japan world's top robot density with nearly 1.5 robots per 10 people. Ranked near the bottom was Myanmar (133)

<https://www.weforum.org/agenda/2016/07/what-is-networked-readiness-and-why-does-it-matter/> Adapted:

https://en.wikipedia.org/wiki/ICT_Development_Index

YouTube

- IDI <https://www.youtube.com/watch?v=nX9VCPIGhJg>
- NRI for India <https://www.youtube.com/watch?v=HEcKmxBOyz0>

INTERNET WEB SOURCES SURFACE, DEEP AND DARK

Governments, businesses and individuals not only surf the net, but use it to access services-email, e-commerce and social media. The internet provides people with the ability to communicate information but brings risks associated with high tech crime, such as destruction of data and creation of malicious software - viruses, worms and Trojans.

SURFACE WEB:

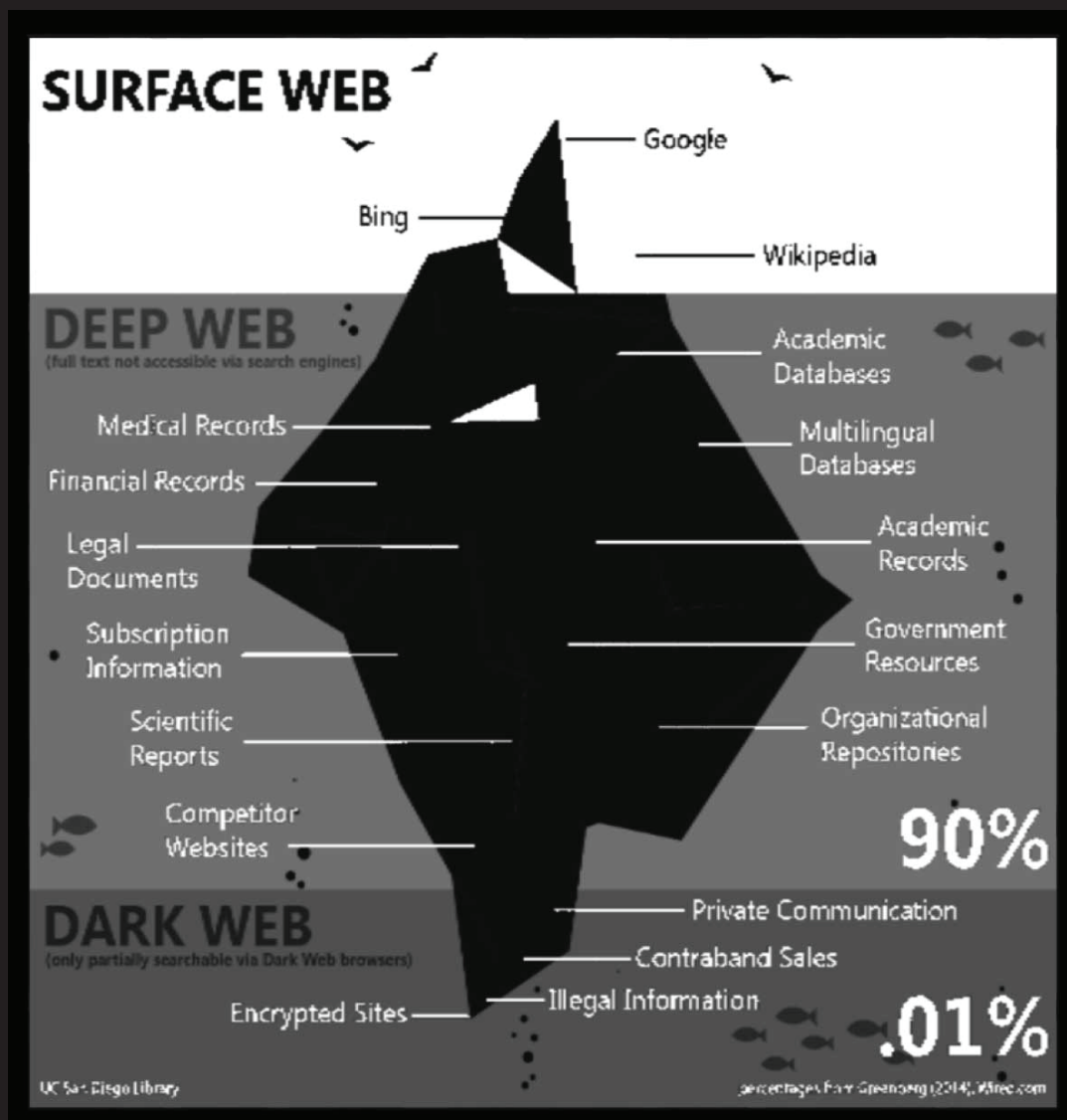
Data freely available to general public. Google's index of surface web contains about 14.5 billion pages (June 2015).

DARK WEB:

Political protests, drug trafficking, and terrorist activities. Accessible through networks such as Tor (The Onion Router). Information is encrypted and not easily accessible.

DEEP WEB:

Academic databases, and scientific and government reports. Often full content hidden behind a pay wall or password.



Iceberg <https://ucsd.libguides.com/c.php?g=90839&p=4299442>

YouTube: The Hidden Internet-Exploring the Deep Web <https://www.youtube.com/watch?v=wMgqTWdk3tw>

UNEQUAL INTERNET ACCESS ACROSS ASIAN REGION

The digitally divided Asian region, referred to as the **Frontier Technology Divide**, separates those countries and people with and without, access to computers and the internet. Technological inequality is related to socio-economic status, where disadvantaged groups are generally poor people living in rural and/or isolated settlements, especially women, children, disabled people and ethnic minorities.

Some Asian countries such as Myanmar, Nepal, Saudi Arabia and Vietnam experience restricted access to the internet-referred to as '**Black Holes**'. For nearly 20 years, the Great Firewall of **China** has limited mainland Chinese citizens' access to the uncensored internet. In **North Korea** internet access is generally unavailable.

DIGITAL GAP: BETWEEN AND WITHIN ASIAN COUNTRIES

BETWEEN ASIAN COUNTRIES

Digital divide between wealthy Hong Kong and poorer Bangladesh.

WITHIN ASIAN COUNTRIES

In China there is a polarised digital divide between the 'haves' living in urban coastal areas such as Guangdong Province and the 'have nots' living in rural-inland areas such as Yunnan Province.

DIGITAL GAP: BETWEEN ASIAN COUNTRIES

INTERNET SPEED

Globally, South Korea has **fastest internet speed** of more than 80Mbps, followed by Hong Kong (4th), Singapore (7th) and Japan (8th). This contrasts with Laos 4.5Mbps and Philippines 3.5 Mbps

INTERNET USERS

China contains highest number of **internet users** followed by India (2nd) and Indonesia (5th). However only 49% of people living in the Asian region use the internet.

INTERNET PENETRATION

In Asia, Japan tops **internet penetration** (93%) compared to Laos (26%) and North Korea (0.06%)

DIGITAL DIVIDE: BETWEEN SINGAPORE AND INDONESIA

Strong relationship between GDP per capita and internet access

The Economist Intelligence Unit (EIU's) 'Connecting Capabilities' Report includes the first Asian Digital Transformation Index, a quantitative ranking of 11 Asian markets using 20 indicators across three key categories:

- *business performance*
- *digital infrastructure*
- *human capital and industry connectedness*

The project found Singapore, South Korea and Japan led the way in Asia, due to their superior digital infrastructure. These countries were a long way ahead of developing countries like Indonesia and the Philippines. The big emerging markets of China and India possessed more internet users globally.

<https://www.telstraglobal.com/au/insights/news/newsitem/new-asia-index-highlights-the-importance-of-digital-infrastructure-skills-and-technology-ecosystems-in-the-modern-global-economy>



<https://www.slideshare.net/wearesocial/digital-in-2018-in-southeast-asia-part-2-southeast-86866464d>

ASIA'S TECH DIVIDE: CONSEQUENCES AND SOLUTIONS

DIGITAL DIVIDE

"While some babies in India are snapped on smartphones the second they are born and their pictures shared on Facebook, others never get access to the internet in their lifetime."

<https://edition.cnn.com/2012/12/06/tech/bangalore-india-internet-access/index.html>



CONSEQUENCES

Digital divide shuts out millions of people from transformative digital opportunities in education, health, business, and financial services"

<http://www.unescap.org/resources/state-ict-asia-and-pacific-2016-uncovering-widening-broadband-divide>

Slow speeds and lack of access to the net costs Asian countries like the Philippines billions of dollars yearly.



SOLUTIONS

Aimed to overcome the divide, Asian countries are focussing on reliable and affordable connectivity for effective and 'inclusive' integration of ICT. Plans to accelerate digital access includes: voice control technology making it easier for people with lower levels of literacy; reduction in costs of smartphones; and faster connectivity.

Advances in ICT have contributed to socioeconomic transformations across the Asian region. **The Asia-Pacific Information Superhighway (AP-IS)** embraces the digital revolution, as it represents employment opportunities across all industries, and across diverse sectors such as finance, sales, software engineering, programming, systems analysis, healthcare, transportation and multimedia. Salaries and remittances are sent via mobile phones in Pakistan and Philippines, farmers use the internet to access information in Indonesia (e.g. weather, crop prices, agricultural skills), and disaster managers communicate with people requiring assistance in flooded

<https://thediplomat.com/2016/06/can-tpp-help-bridge-asias-digital-divide/>
Image Credit: Female farmer using smartphone image via Shutterstock.com

INDIA'S DIGITAL DIVIDE

Despite clusters of ICT excellence, the uptake of ICT in India remains low.

Prime Minister Narendra Modi, wants India to become a global manufacturing hub, by being self-reliant in the production of electronic goods and a leader in cyber security and innovations. Improving connectivity means investing in both physical and human capital to bridge the digital gap.

POPULATION DIVIDE 1.21 BILLION

- 82% without access to internet
- 1.2% access to fixed broadband
- 5.5% access to mobile broadband
- 12% of households possess a personal computer
- 48% own a mobile phone
- Internet penetration 31% (UK, USA 80%). 60% urban India compared to 17% rural India
- 14% live in areas deprived of cellular phone reception
- World's second highest number of Facebook users

REASONS FOR DIGITAL DIVIDE

- Low incomes: unaffordable computers and mobile phones
- Little or no education
- Poor digital infrastructure: lack access to broadband
- Ethnicity and language: non-English speaking
- Gender: predominantly uneducated females
- Geographic location: poorer serviced rural areas compared to urban areas
- Investment: deficiency

DIMENSIONS OF DIGITAL DIVIDE

- Connectivity: install telecommunications infrastructure, equipment and software
- Capacity: install and maintain networks. Requires educated IT professionals
- Content: ICT language needs to be relevant to the community
- Community: ICT access depends on finance, literacy, age and abilities
- Finance: investment in infrastructure, and purchase of personal computers for schools
- Policies: concerning free available information and data

OBSTACLES TO OVERCOME DIGITAL DIVIDE

- Physical access: requires computers, landlines and networks to access the internet
- Financial access: reduce costs of devices and labour-technicians, software and maintenance
- Socio-demographic: improve literacy and reduce poverty
- Institutional access: available to schools, community centres and cyber cafés
- Language: involves a working knowledge of English

Background image https://ru.123rf.com/photo_32098286_%D0%BF%D0%BB%D0%B0%D1%82%D0%B5-%D1%84%D0%BE%D0%BD%D0%B5.html

India's digital divide <https://www.youtube.com/watch?v=Ua82vaQnuss>

INDIA'S DIGITAL DIVIDE



DIGITAL GENDER DIVIDE MISSING W: WOMEN

Even though India is the world's second highest internet user, access to the internet is a privilege for male urbanites, and generally eludes rural dwellers and women.

We are familiar with the 'www' abbreviation, but there is a missing 'w' for women. This divide' limits women's access to education, healthcare, community support (e.g. dowry burning), business and employment.

In 2016 several villages in western India banned girls and single women owning mobile phones. The ban imposed by elders in villages, was because devices distracted them from their studies. Few followed the ban.

Photograph: Muslim brides pose for a selfie before a mass marriage ceremony in Gujarat, India <http://www.chronicle.co.zw/india-bans-women-from-owning-mobile-phones/>

Background image https://ru.123rf.com/photo_32098286_%D0%BF%D0%BB%D0%B0%D1%82%D0%B5-%D1%84%D0%BE%D0%BD%D0%B5.html

Bengaluru Named Most Dynamic City in the World <https://www.youtube.com/watch?v=UNEVwcaPb>

BANGALORE (BENGALURU) BRIDGING DIGITAL DIVIDE LL CITY MOMENTUM INDEX

India is among the worst performing countries in the world for digital inclusion. However, attempts are being made to bridge the digital divide.

Bangalore (Bengaluru) known as India's Silicon Valley is a hub of technology entrepreneurs and some of the world's top global software companies. However, the paradox is that many of its residents have never surfed the Web.

'The JLL City Momentum Index ranked Bengaluru as the most dynamic city in the world, ahead of Silicon Valley (USA) and Shanghai (China). Many of the leaders of the e-commerce giants are based here. This is partly due to the abundance of skilled labour and the established IT ecosystem.'
<https://firpodcastnetwork.com/is-bangalore-the-worlds-dynamic-city/>

Image <https://vimeo.com/216690453>

INDIA: PLANS TO REDUCE DIGITAL DIVIDE

DIGITAL INDIA: PLANS AND COMMITMENTS

PLANS:

- Universal access to phones, broadband highways, public internet access, and creation of IT manufacturing and services jobs.
- To transform the country into a “digitally empowered knowledge economy,” while eliminating corruption

TECH GIANTS:

- **Microsoft** will work to bring low-cost broadband connectivity to 5,000 villages in India
- **Google** will set up free Wi-Fi at 500 railway stations
- **Qualcomm** will invest \$150 million in Indian Startups

<http://gsnetworks.org/blog/the-power-to-empower-closing-the-digital-divide-in-india/>

BUSINESS OPPORTUNITIES

- **ORGANISATIONS** such as **Pepsico** could offer single-use mobile internet access with their products: ‘Enjoy 15 minutes of internet access while you enjoy your drink’. Similarly, organisations such as **Unilever** could provide an hour of mobile internet access with each product –an hour that begins with a web page or video featuring one of their brands.
- **RETAILERS** could adopt a model used in Indonesia, where **7-Eleven** increased patronage amongst millennial consumers after introducing free Wi-Fi in its stores.
<http://www.thehindubusinessline.com/catalyst/crossing-the-digital-divide/article7587001.ece>
- **SOCIAL MEDIA:** By referring to conversations on Facebook, Twitter and Instagram, businesses are able to create opportunities to engage people through their consumer decision-making journey.

INTERNET SOCIETY (ISOC)'S BANGALORE: EXPANDS WORK AND ENTERPRISES

- Mr Kemperaj from Hennur in north Bangalore specialises in making lamp shades and pillow cases. He used to travel more than 70 km every day to obtain a sample of his work approved by his vendor. Now he sits in front of a computer, sends the photos by e-mail and surfs the Net to research new designs and discover new sales routes such as eBay.
- Mr Kemperaj is one of hundreds of craftspeople who have benefited from workshops organised by the **Internet Society (ISOC)'s Bangalore Chapter**. Using an Internet Society Community Grant of US \$9,000, Bangalore is training everyone from tailors and glass cutters to cotton weavers and furniture makers, who are able to download pictures, and use e-mail, video conferencing, instant messaging, Excel and Word, as well as promote their products on Facebook and Twitter.

<https://edition.cnn.com/2012/12/06/tech/bangalore-india-internet-access/index.html>

Background image <https://newsclick.in/employment-suffers-digital-india>

What is Digital India Programme? <https://www.youtube.com/watch?v=J71T93cFXiE>

Internet society <https://www.youtube.com/user/InternetSocietyVideo>

Top 10 IT Companies in India <https://www.youtube.com/watch?v=UaOLECw7aOM>

EVERY ENTERPRISE IS A TECH COMPANY

"Today, the digital economy is no longer just about the technology sector and digital firms, it is about the digitalisation of supply chains across all sectors of the global economy".

<https://newsclick.in/employment-suffers-digital-india>

The **cloud** enables every enterprise to be a technology company, as it provides a diversity of services and allows access regardless of size or type of industry. The American tech giant **Amazon** is an electronic commerce and cloud computing company. It evolved from an on-line book seller to the largest Internet retailer in the world.

Cloud computing can democratise access to technology and deliver benefits for governments and businesses.

CLOUD BENEFITS

- No IT maintenance costs
- Of-site data storage
- Productivity anywhere
- Easily upgraded
- Always available



CLOUD STORAGE

- Photographs
- Videos
- Music
- Information/Data
- Documents
- Contacts

Microsoft aims to drive the **digital transformation** of most enterprises in Asia on its cloud computing platform. It said 60% of the Asia-Pacific's top 1,000 companies will have digital transformation at the centre of their strategy by 2018. Asian enterprises that use some form of cloud computing stated that it reduced infrastructure costs and lowered capital expenditure, compared to traditional IT management.

DIGITAL TRANSFORMATION OF ENTERPRISES

Digital transformation effects all enterprises. When **digital transformation** focuses on the **digital customer**, it engages **e-commerce** and **mobile commerce platforms**, and integrates social networks, smartphones and the internet.

Nike utilises customer data and digital technology to produce customised shoes. The Nike+platform integrates apps and fitness equipment.

The company aims to fuel future growth by **investing in digital capabilities**, to reduce time product gets to market by 50%.

Digital transformation is the change associated with the application of digital technology in all aspects of human society. (https://en.wikipedia.org/wiki/Digital_transformation)

<http://www.digitaljournal.com/tech-and-science/technology/how-nike-is-taking-the-next-step-in-digital-transformation/article/506051>
<http://www.digitaljournal.com/tech-and-science/technology/how-nike-is-taking-the-next-step-in-digital-transformation/article/506051#ixzz56b9nm2Bw>
2017 State of Digital Transformation Report <https://www.slideshare.net/Altimeter/report-preview-the-2017-state-of-digital-transformation>
<https://www.linkedin.com/pulse/four-success-factors-digital-transformation-dirk-rohweder>
<http://hotokeca.com/wp-content/uploads/2017/12/Cloud-Management-Open-Source.jpg>
Every company is now a tech company https://www.youtube.com/watch?v=jl_OUkuY4Dc
What is "The Cloud"? <https://www.youtube.com/watch?v=dsKIPLKo8AE>
Nurture Digital Nike Case Study <https://www.youtube.com/watch?v=tyVcfUYdGro>


BIG DATA

MORE DATA THAN GRAINS OF SAND ON EARTH!

Data is collected by a range of organisations such as businesses (e.g. revenue), governments (e.g. literacy rates) and non-governmental organisations (e.g. number of people living below the poverty line). Data once collected, measured and analysed, can be visualised using graphs, tables and images such as Meteorological satellite images and Census data.

Traditionally data consisted of information, with rows and columns of numbers in spreadsheets, or structured tables. Today this model is becoming outdated, as data is moving towards systems that use artificial intelligence (AI) to extract answers. By teaching computers to think, information can be analysed in an abstract way. This task requires vast, limitless collections of data from a variety of sources.

Governments, companies, researchers and community groups are adapting to the new world in which data is bigger, faster and more detailed. This is referred to as the **Big Data Revolution** that will transform how we live, work and think.



Imagine all the grains of sand around the world-include deserts and beaches. According to Google it is seven quintillion, five hundred quadrillion!

By 2020:

- The amount of data will be four times larger than grains of sand on Earth
- Approximately 15% of data will be stored in the cloud
- About 33% of data will contain information that might be valuable if analysed. Referred to as MAPREDUCE technology (extraction of value from large untapped pools of data).

Background <http://cliintel.com/wp-content/uploads/2016/01/e0b00b9f.jpg>

"Big Data Revolution" - PBS Documentary <https://www.youtube.com/watch?v=bIY3LUZ7i8Y>

BIG DATA: COMPANIES AND PREDICTIVE ANALYTICS

Big data will be a game changer for businesses and governments around the world. From predictive analytics and cognitive computing to machine learning and AI, the future for governments and businesses within the data driven economy is filled with opportunity and promise!

<https://coriniumintelligence.com/big-opportunities-for-big-data-in-the-asia-pacific/>

Big Data involves data sets that contain large or complex data that is inadequate for traditional data processing software. Instead, Big Data can be analysed to reveal patterns, trends and associations relating to human and environmental behaviour and their interactions. It employs predictive analytics to find new correlations that prevent diseases and combat crime.

Big data includes the ability to identify the relationship between crime and socio-economic variables such as education, income and unemployment. It identifies concentrations of crime in small geographical areas (crime hotspots) that allows the application of appropriate welfare projects.

Commerce, industry, government and welfare organisations benefit from the use of Big Data.

- In USA IBM is the market leader, with revenues of about US\$1.5 billion from big data.
<https://www.statista.com/statistics/254266/global-big-data-market-forecast/>
- Forbes noted that 53% of company's interviewed in 2017, were adopting Big Data Analytics, up from 17% in 2015. <https://www.forbes.com/sites/louiscolumnbus/2017/12/24/53-of-companies-are-adopting-big-data-analytics/>

As the analytics industry is still growing there is no one leader emerging. However large and powerful Big Data companies include Tableau, New Relic, IBM, Oracle, Microsoft, Amazon and Google

BIG DATA COMPANIES AND THEIR INFLUENCES



EXAMPLES	INFLUENCES
SMS Marketing Services	Company works with top brands, brokers, agencies and Fortune 500 firms to provide data
Tableau	Company offers visualisation of data from a variety of sources and works on everything from an iPhone to a PC
Kognitio	Analytical applications of the company on large and complex data-for organisations such as Data Science
New Relic	Company monitors mobile and Web applications in real-time that run on-premises, in the cloud, or as a mix. Daily, the company makes sense of 250 billion data points from millions of applications.

Elephant <https://www.strategos.com/wp-content/uploads/2015/03/big-data.jpg>

What Exactly Is Big Data and Why Should You Care? | Forbes <https://www.youtube.com/watch?v=jGhRiwGHh30>

Big Data Analytics: 11 Case Histories and Success Stories <https://www.youtube.com/watch?v=t4wtzLuoY0w>

FIVE 'VS' OF BIG DATA VELOCITY, VARIETY, VERACITY, VOLUME AND VALUE REQUIRED TO UNDERSTAND BIG DATA

VERACITY

Trustworthiness of data-
accuracy, accountability,
security, uncertainty, bias

VELOCITY

Speed at which data is
generated, real time
algorithms

VALUE

Just processing Big Data
is of no use unless it can
be turned into value

VARIETY

Different types of data-
satellite, statistics

VOLUME

Size of data
Terabytes

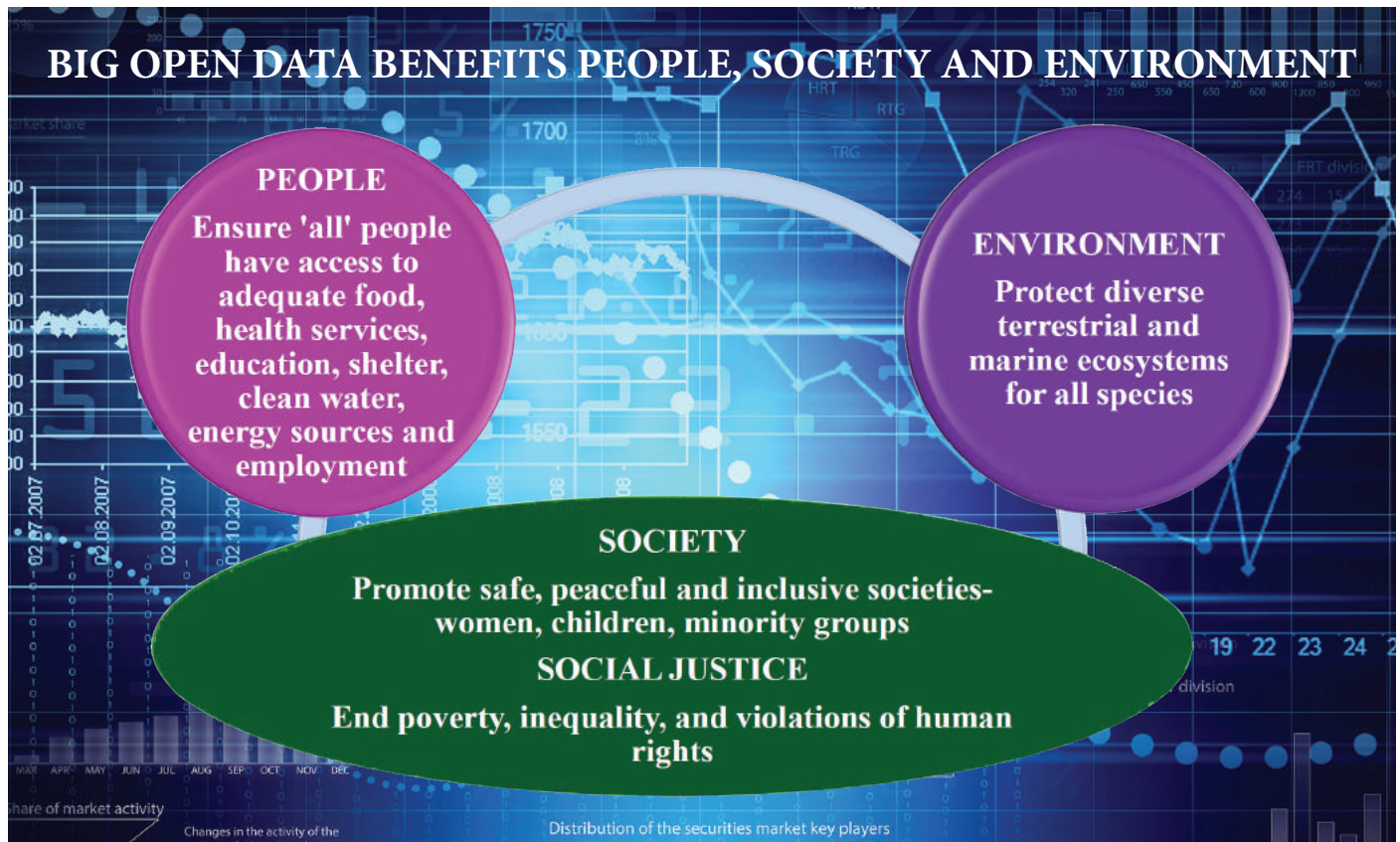
What exactly is Big Data? Volume , Velocity and Variety <https://www.youtube.com/watch?v=xTVmK22ugj0>

Background image <http://marketingland.com/wp-content/ml-loads/2015/01/analytics-marketing-data-technology-ss-1920.jpg>

Distribution of the securities market key players

'OPEN DATA' IN BIG DATA WORLD

Open Data refers to everyone, everywhere, everyday possessing access to 'all' data. This aims to prevent discrimination and promote transparency and accountability. Of the 4.3 billion people without access to the internet, 90% live in developing countries, mostly in rural remote locations in Asia or Africa. Access and use of ICT is required to penetrate remote areas in all countries to enable sustainable development.



Background image <http://marketingland.com/wp-content/ml-loads/2015/01/analytics-marketing-data-technology-ss-1920.jpg>

However not 'all data' is available to 'all' people because:

- **firewalls** are built to monitor and control network traffic and block computer hackers
- **internet black holes** exist when internet traffic is silently discarded e.g. China and North Korea
- **unequal access to data and technologies across regions** - advanced/developed economies tend to be ahead of poorer developing countries in Asia, on almost every ICT indicator:
 - **access** - affordability, infrastructure, content, skills
 - **use** - government, business, individual
 - **impacts** - social, economic, environmental

Governments are opening their data, as Open Data aims to stimulate innovation, tackle economic problems and improve human wellbeing. The Australian Government developed a Big Data strategy to make data held by national and regional authorities publicly available.

Open Data - explained in a nutshell <https://www.youtube.com/watch?v=c42QNa-rcw>

Great Firewall of China (HUNGRY BEAST) <https://www.youtube.com/watch?v=dWfUOG0EA9w>

Internet Black Holes <https://www.youtube.com/watch?v=nUl6UNSMILs>

Tim Berners-Lee: The next Web of open, linked data https://www.youtube.com/watch?v=OM6XIICm_qo

BIG DATA: GAME CHANGER FOR RETAIL



Eventually, every aspect of our lives will be affected by Big Data. Interestingly, the retail sector is where big data has made a huge impact. Large retail stores understand consumers' behaviour by collecting data from every store and every item.

Responsive retail has peaked, and '**predictive analytics**' is used to exploit customer data. Predictive analytics uses past data for predicting future events. Its focus is on the micro rather than the macro, looking at individual interactions with customers, suppliers and employees rather than at average behaviour. Retailers are gathering demographic data and economic indicators to build a picture of the spending habits across targeted markets. They also follow trend forecasting algorithms, and comb social media sites and peoples' web browsing habits, to determine what is triggering the latest retail buzz, and then analyse data to forecast future retail trends.

Artificial Intelligence (AI) in retail, will mean customers will manage 85% of the relationship with the enterprise without interacting with a human. **Walmart** already has shelf-scanning robots and Amazon has 'walk out technology'. It detects items taken and shortly after the customer leaves they will be charged through their Amazon account, and sent a receipt.



Photo: <http://www.agilone.com/wp-content/uploads/2015/06/retail-tech.jpg>

Cartoon https://media.licdn.com/mpr/mpr/shrinknp_800_800/p/6/005/068/321/2ab62dd.jpg

Predictive Customer Intelligence: Shopper DNA <https://www.youtube.com/watch?v=Yi1XZxXTujQ>

Predictive Retail Analytics <https://www.youtube.com/watch?v=mxAx9i5vFi8>

RETAIL: BIG DATA AND PREDICTIVE ANALYTICS

It can be spooky to contemplate living in a world where Google and Facebook and even Target knows more about you than your parents do! Today, there has been vast progress since Target's Big Data retail experiment attempted to work out who was pregnant.

Article: <http://seanlahman.com/blog/wp-content/uploads/2013/08/target.jpg>



Imagine you're about to leave the house to pick up your kids. As you grab your keys, you hear a voice from the device on your coffee table: "It looks like you'll use the last of your milk tomorrow, and yogurt is on sale for \$1.19. Would you like to pick up an order from Trader Joe's, for a total of \$5.35?" You say yes, and Alexa confirms. The order will be ready for curbside pickup, on the way home from your kids' school, in 15 minutes.

This future scenario isn't so far off. Amazon, Facebook, Google, and Apple are accelerating consumer expectations and what's technologically possible, from same-day delivery to machine-powered image recognition. You can call an Uber with Siri and book a flight entirely through a Facebook Messenger bot.

It's time for retailers to help people find products in their precise moment of need — and perhaps before they even perceive that need — whether or not they're logged in or ready to click a "buy" button on a screen. This shift will require designing experiences that merge an understanding of human behaviour with large-scale automation and data integration.

<https://hbr.org/2016/11/how-predictive-ai-will-change-shoppin>

BIG DATA: WINNING FORMULA IN SPORTS

Big Data spans the entire sports cycle from pre-match analysis, training, player profile, team performance to fan engagement. It triggers broadcast content, advertising, ticket sales, a sports person's performance, and predict the outcome of a game. However, it is easier to analysis real time data for an individual such as a tennis player than a team sports such as football.

'Teams and the analytics providers have sophisticated ways of monitoring and capturing growing volumes of data. Cameras, sensors and wearables record every aspect of player performance. Managers, coaches and athletes use data to dictate calorie intake, training levels and even fan interaction in the chase for better performance on the field.'

'In American football or rugby for example, injury levels have been reduced in the professional game due to wearable sensors that monitor the intensity of activity and impact of collisions, and compare this to historical data to determine when a player might be in danger of overexerting or injuring themselves.'

<https://www.forbes.com/sites/bernardmarr/2015/03/25/big-data-the-winning-formula-in-sports/#66875ed34dea>

BASEBALL - A SNAPSHOT OF METADATA AND GRAPHICS

The Field f/x program captures over one million points of data for every baseball game. That is 2.4 billion data points per baseball season. This task is measured by a computer and not constrained by human limits-errors and labour intensive job to view videos make billions of measurements.

Screen grab: <http://seanlahman.com/blog/wp-content/uploads/2013/08/field-fx1.jpg>



Big data – Sports <https://www.youtube.com/watch?v=6RbDd87UYrg>

Big Data Management in Sports: The Race Is On <https://www.youtube.com/watch?v=IRhSDktbgl4>

How Data is Changing Football with Opta <https://www.youtube.com/watch?v=17xpoUJepil>

BIG DATA FOR AUGMENTED REALITY FUTURE MEDICAL WORLD

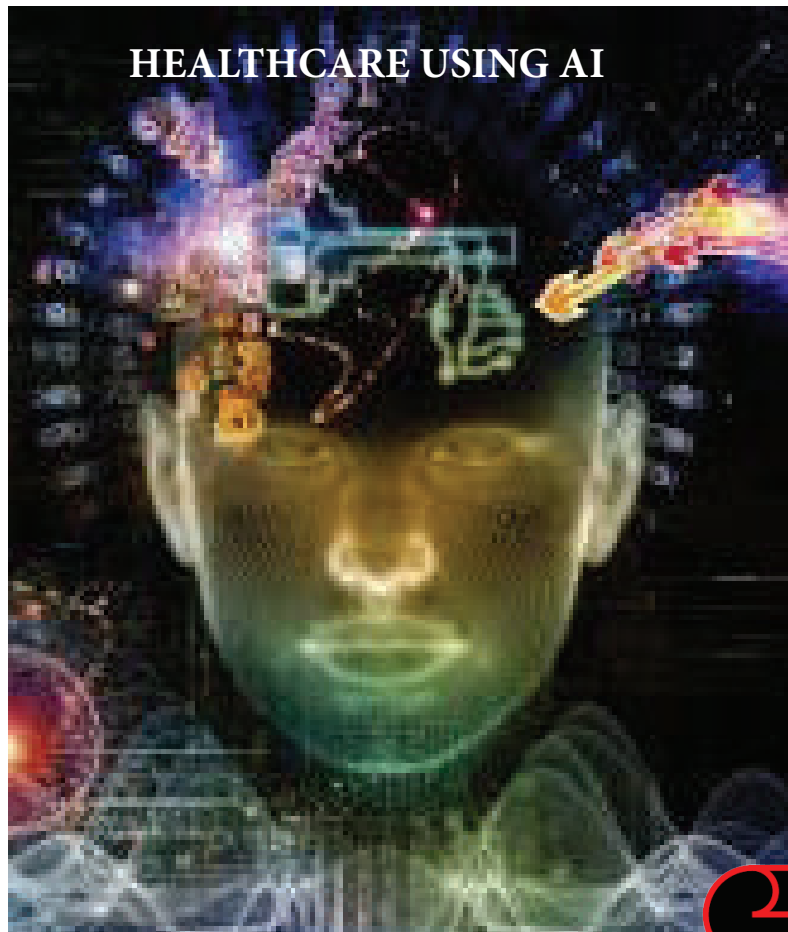
Augmented reality (AR) or wearable technology, is combining with **IoT** to create a new reality that will change the way we experience the world. Technology will overlay daily activities to create a personalised, digitally enhanced experience. Visit a shop and have your body scanned, and soon a customised wardrobe will be available to you.

The integration of virtual and augmented reality will require **larger sets of data** to be analysed.

Augmented Reality (AR) technology plays an important role in the future of medicine such as Telemedicine, Real-Time Imagenology, and Telesurgery (robotic surgery and AR from afar).

Google Glass has been successfully used for surgical purposes. For example in 2013 shoulder replacement surgery was performed using Google Glass and virtual AR technology VIPAAR. **Apps** are also used, such as **Doctor Mole-Skin Cancer app** that enables users to assess moles with real time computer vision technology. It scans a mole and the patient receives real time feedback.

HEALTHCARE USING AI



AI applications will depend on data to develop **predictive models**. For example the larger the electronic medical data records reflect dangerous infections in hospitals, the better the system can **predict** these events before they occur. Referred to as **actionable insights**, AI used in healthcare aims to provide physicians with information to make better decisions for all patients.

Healthcare using AI

- **Data management**-collecting, storing, tracing lineage
- **Design treatment plans** for oncologists
- **Assist radiologists** detect health problems faster and more reliably
- **Online consultations**-report symptoms with checks against database and patient's history
- **Health assistance** and **medication** management
- **Drug creation**-speed process and make more cost effective

Photo: <http://www.businesscloudnews.com/files/2016/01/AI-Artificial-Intelligence-Machine-Learning-Cognitive-Computing.jpg>

How Big Data Could Transform The Health Care Industry <https://www.youtube.com/watch?v=mXrZEIpNMw>

Big Data: Biomedicine <https://www.youtube.com/watch?v=F6CI7jXHGWg>

BIG DATA: FIGHTING CLIMATE CHANGE FUTURE WORK AND ENTERPRISE

FIGHTING CLIMATE CHANGE

The abundance of climate data from **model simulations**, **satellites**, **geospatial data**, and **field observations** is closing the knowledge gap on how the complex dynamic Earth system functions. Today, climate science is one of the most **data-rich** domains in terms of **data volume**, **velocity** and **variety**. The **cloud**, **IoT** and **social media**, have resulted in additional data, photographs and videos. **Data for Climate Action** harnesses Big-Open Data from science and government sectors, and **predictive analytics** addresses the interconnected causes, impacts and mitigation of climate change. **Big Data** aims to lead to more accurate **predictive modelling** of global climate.

PREDICTIVE MODELLING

Many climate change projects are built around the principle of **predictive modelling**, with the most advanced climate models called **General Circulation Models**. However, sceptics question:

- *How reliable are predictive climate change models?*
- *Is climate too complex to model or predict?*

CLIMATE PROJECTS

The **International Centre for Tropical Agriculture (CIAT)** project demonstrates how Big Data and predictive modelling aids the mitigation of climate risks and strengthens resilience to climate disasters.

- Climate data, weather forecasts and **crop data** delivers real time advice to farmers during droughts.
- **Weathersafe** project provides data that assists **coffee growers** adapt to changing weather patterns and soil conditions
-

COULD FIVE BIG DATA PROJECTS STOP CLIMATE CHANGE?

GOOGLE EARTH ENGINE

Tracks deforestation in the Amazon

MICROSOFT'S MADINGLEY MODEL

Illustrates environmental impacts on animal mortality

DATA.GOV'S CLIMATE

Provides 400 government data sets from agencies and researchers

GLOBAL FOREST WATCH

Tracks forest changes. 500,000 people use the service e.g. Nestle and Indonesian government

OPOWER

Analyses people's power usage

Background <https://badgerherald.com/media/2016/02/12.jpg>

Understand Climate Change through Big Data <https://www.youtube.com/watch?v=RnE1VrxSH8A>

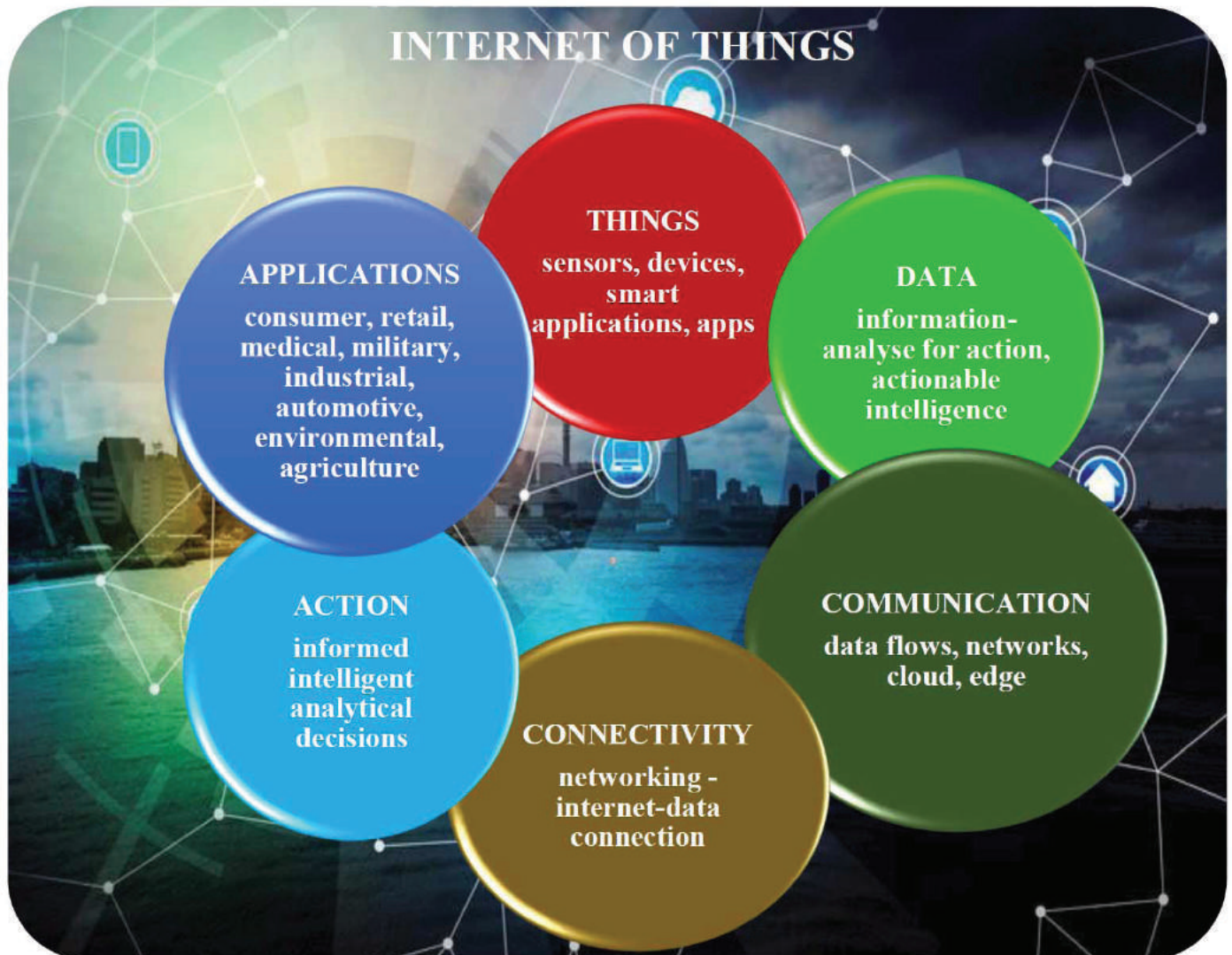
INTERNET OF THINGS (IOT)

The Internet of Things (IoT)

- Thought to be powering the **fourth industrial revolution**
- Connects billions of internet-connected 'things' to generate data e.g. cars with built-in sensors, heart monitoring implants, biochips on animals, DNA devices for food monitoring, and home automation that control air conditioners and refrigerators.
- Indicates the connections of computing devices embedded in everyday objects or **things** (e.g. smart phones) that enables data to be received and transmitted via the **internet**. It has propagated smart watches (Apple Watch), smart wristbands (Nike), smart TVs (Google), and the development of smart homes and smart cities.

By 2020, IoT will consist of about 50 billion devices enabling humans to become increasingly connected, interactive and capable of communicating with each other independently of humans. The huge growth is due to available and affordable (largely **cloud-based**) storage and computer power, low-cost internet use, and widespread wireless connectivity.

The IoT, Big Data and AI is crucial for smarter future decisions. A plethora of on-line free data platforms makes organising, synthesising and analysing data easier, however information in a database must be checked for errors, bias and duplications.

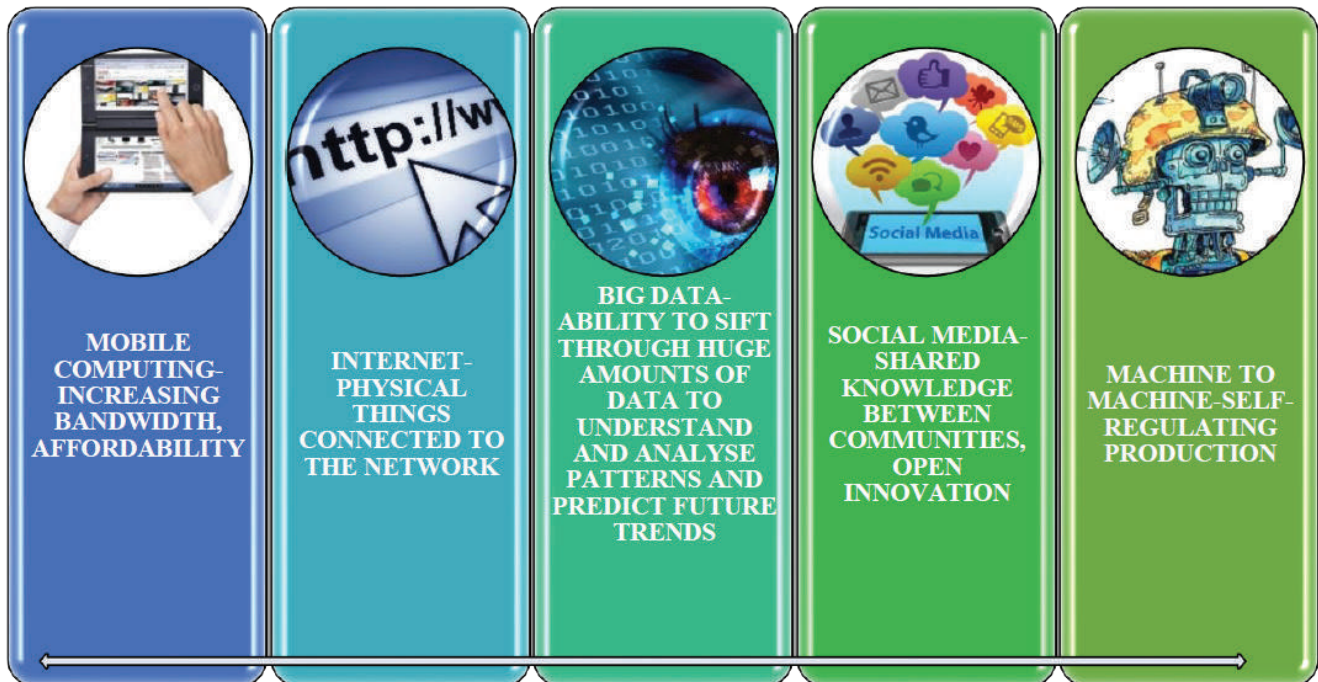


Background <http://zdnet2.cbsistatic.com/hub/i/r/2016/07/20/82ce1fd8-6817-4a64-b065-ae245ad00e8e/resize/770xauto/7b385d49ef7c1e11677faa947a03638a/istock-internet-of-things.jpg>

The Internet of Things Meets Big Data, with Chris Curran https://www.youtube.com/watch?v=l_LT_ZKIVQw

Disney Making Magic with Big Data and the Internet of Things <https://www.youtube.com/watch?v=OLOOO1vZvz0>

ENABLERS OF INTERNET OF THINGS



INTERNET OF EVERYTHING (IOE)



Background <http://www.goldenrural.org/wp-content/uploads/2016/04/internet.jpg>

Big Data and the Internet of Everything <https://www.youtube.com/watch?v=Lz7GsuXDscg>

SMART CONNECTED WORLD

FROM HEAD TO TOE WEARABLE IOT

In 2017, there was 70 million wearable computing gadgets. For example:

- *shirt and trousers*: conductive thread takes the energy generated by body movements and uses it to power other gadgets
- *wristband*: measures steps walked during the day
- *shoes*: with embedded GPS chips-left shoe indicates direction and right shoe shows distance
- *hand*: with embedded chip contains medical records, passport data and credit records
- *wristwatch*: vibrates when message arrives
- *eyes*: glass overlays navigate direction and provide information about points of interest

REINVENTING THE INTERFACE-POWER IN YOUR HAND

Turn your hand and fingers into a touchscreen display, 3D mouse and controller <http://eyehand.com/>



TALKING SCOOTERS

By saying 'hello, smart bike' into the helmet, people could sit on a BMW motorbike and inquire about the vehicle's route and tyre pressure. Using Intel Edison technology, the rider is able to access data from the bike's key computer system. Questions are interpreted by Intel voice-recognition software, and the answers are piped into the helmet's built-in audio system. This means that riders don't need to fiddle with a separate device or take their eyes off the road.

The back of the Intel Connected Helmet incorporates LED lights, showing all light signals from the scooter. The hope is that bikers will be more visible to drivers, which will reduce the number of road

<http://www.cadalyt.com/%5Blevel-1-with-primary-path%5D/5-technologies-made-summer-splash-germany-25870>

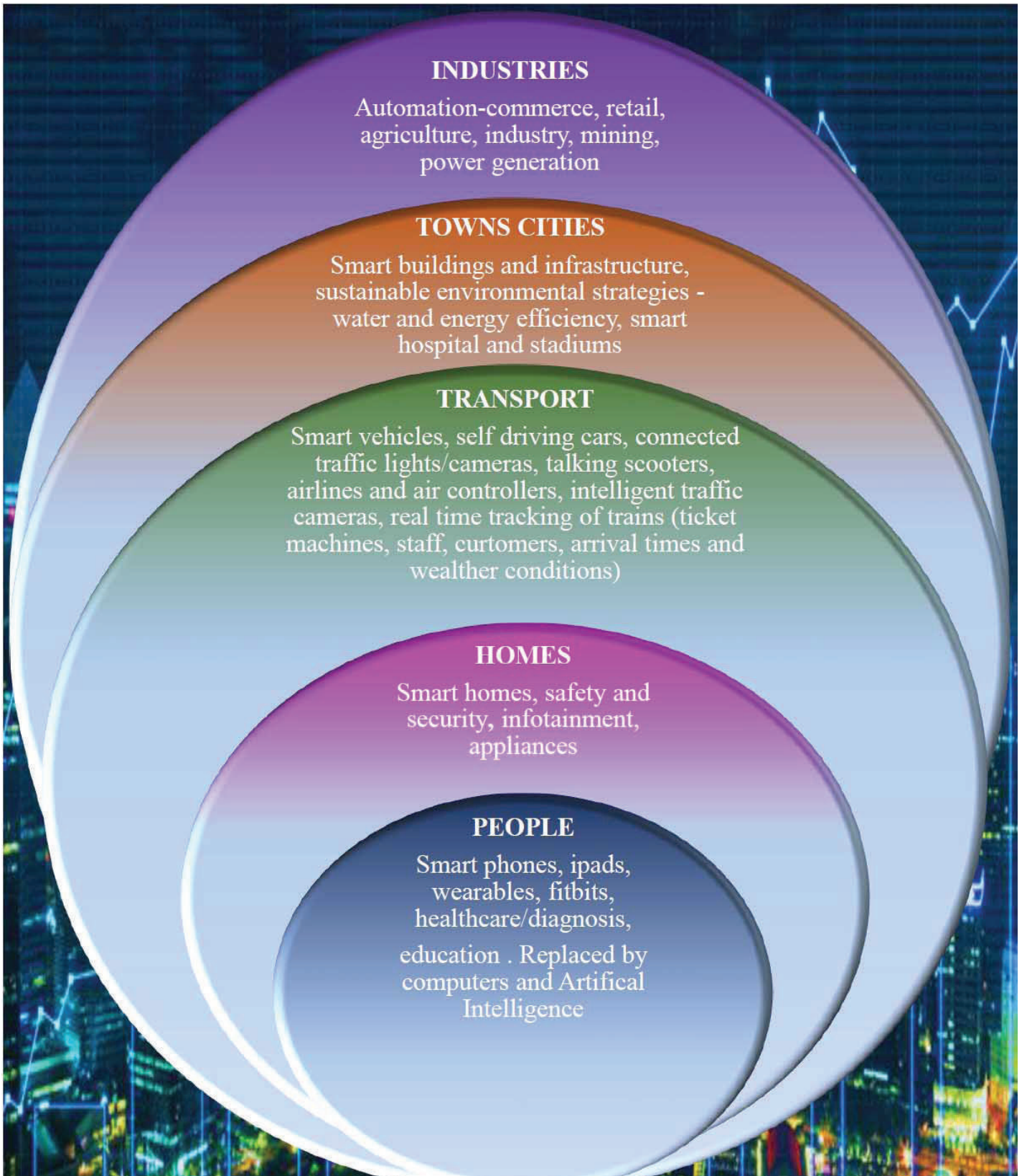
BIG DATA ON WHEELS

Modern cars are equipped with over 100 sensors that create a constant stream of data. Several times per second, sensors on cars measure location, performance and driving behaviour. According to a McKinsey report connected cars create up to 25 gigabytes of data per hour that is equivalent of more than a month of 24-hour music streaming. However, cars equipped with surround cameras and radar are able to generate raw data of 100 gigabytes per second.

The data automatically generated by cars provides a huge source of Big Data and analytics. By 2018 one in five cars will be self-aware and the global connected market worth \$39 billion.

SMART CONNECTED WORLD: VARIETY OF SCALES

In the **smart connected world**, networked connections aim to create economic opportunities for countries, businesses and individuals and 'disconnected' devices are anticipated to no longer exist. However, in 2018, over 99% of 'things' in the physical world were not connected to the Internet.



Background https://connectedworld.com/wp-content/uploads/2015/05/News_CityData.jpg

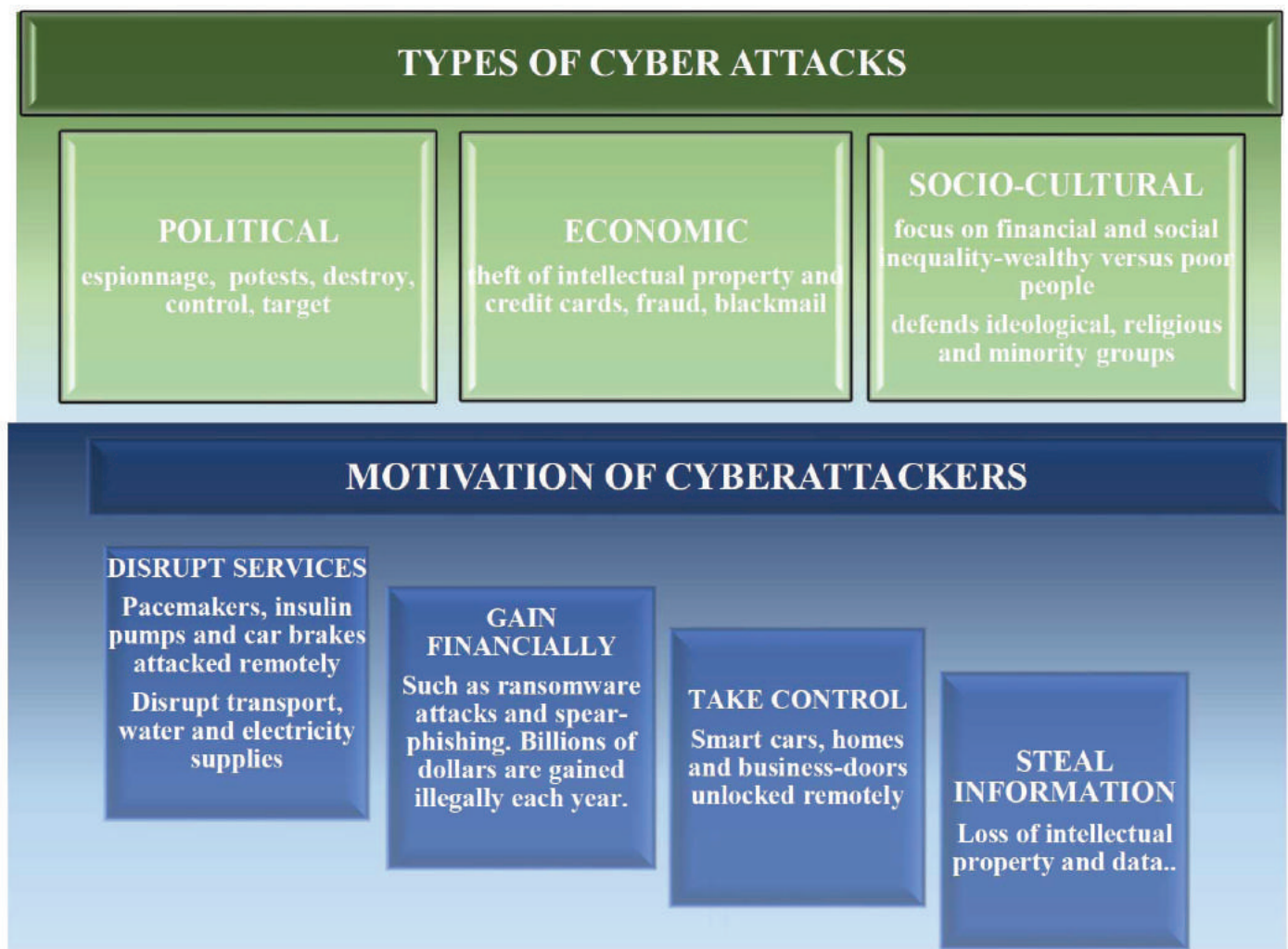
From smart cities to connected shoes: a world beyond smartphones <https://www.youtube.com/watch?v=ADZvLoRGv7A>

SECURITY, PRIVACY AND THREATS IN HYPER CONNECTED WORLD

The **Internet of Things** (IoT), is an open system with many components, making it vulnerable and susceptible to security threats at the component level (e.g. mobile phone, PC) and the systems level (e.g. electricity supplies, banking).

As the number of connected devices is escalating, individuals, organisations and governments connected to the internet are increasingly susceptible to **cyberattacks**. This has led to the escalation of **viruses, malware attacks, spear phishing** and **ransomware attacks**. In May 2017, ransomware cyberattack or WannaCry, hit 200,000 victims in 150 countries. The ransomware locked computers and demanded payments between \$A406 and \$U812 to restore access.

Types and motivations of cyber attackers



Security controls and processes have been established to protect organisations and individuals from cyberattacks, such as:

- installing current antivirus software
- using malware protection to block malicious emails
- developing a password policy that prevents users from selecting easily guessed passwords
- monitoring and analysing abnormal network activity and data leakage
- ensuring data is regularly backed up and stored off-line

Security and Privacy in a Hyper-connected World - Bruce Schneier, Security Expert <https://www.youtube.com/watch?v=8tDU0zcptCY>
Security for a Connected World <https://www.youtube.com/watch?v=2OrNI1UvuPM>
Cyber Security – Top 10 Threats <https://www.youtube.com/watch?v=dVW1FNWSaTg>

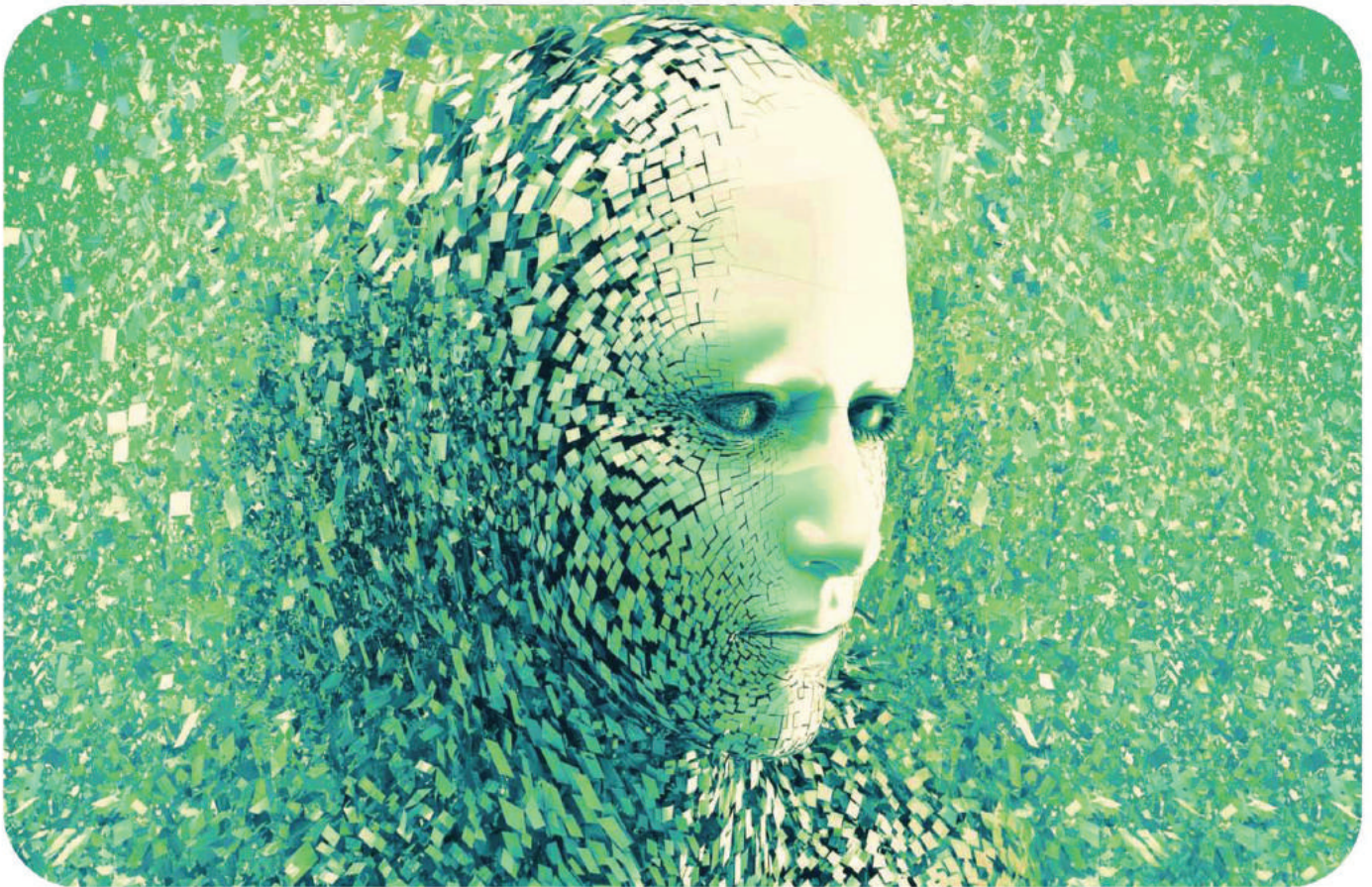
LOST MY JOB TO A COMPUTER

As technology has disrupted employment in the past, AI has the potential to increase productivity, create employment, and boost income growth and prosperity

AI offers the prospects of bringing healthcare, finance, and virtual education to underserved and isolated customers in Southeast Asia. Here are some examples:

- a. COMPAREASIAGROUP, a Hong Kong-based startup, built a business that uses machine learning to match customers with financial, telecom, and utility services across Asia.
- b. SERO, a Vietnam-based agriculture startup, provides farmers with crop intelligence based on field imagery and data.
- c. KATA, an Indonesian startup, is using language processing algorithms to create digital personas that can help businesses converse with their customers.
- d. EUREKA, the analytics unit of the Indonesian telecommunications company INDOSAT, is leveraging AI technology to improve fraud identification, and customer behavioural insights

<https://www.techinasia.com/talk/artificial-intelligence-holds-promise-southeast-asia>.



In 2016 companies invested \$26-\$39 billion in AI, generating more than \$900 billion in wages. Major centres of AI development are US followed by China.

AI has the potential to automate 50% of work performed in Indonesia, Malaysia, Thailand and Philippines. However, the biggest barrier facing Asian businesses is connectivity, and the vast quantities of data collected but never analysed.

<https://www.mckinsey.com/~media/McKinsey/Global%20Themes/Artificial%20Intelligence/Artificial-intelligence-and-Southeast-Asias-future.ashx>

Background https://media.npr.org/assets/img/2017/03/22/istock-510674920_wide-6411b8e24316b12a922ff62cfc15d61d51e36a20.jpg?s=1400
Artificial Intelligence (Think Tech Asia). The race is on between China and the U.S. – the development and application of artificial intelligence (AI) in our daily lives. <https://www.youtube.com/watch?v=yJQsHHclGZk>
Death of Classroom: AI, Online Learning & the Future of Education in Asia <https://www.youtube.com/watch?v=jA5HT2PC8G8>
A.I. is Progressing Faster Than You Think! <https://www.youtube.com/watch?v=mQO2PcEW9BY>

WHAT WILL HAPPEN IF AI OVERPOWERS HUMAN INTELLIGENCE?

The answer to this question lies in how and where we use it. AI, whose full potential of is yet to be uncovered, is a double-edged sword: it can be used to improve the life of the mankind while at the same time can be misused to unleash disaster/terror on the world. Noted scientists like Stephen Hawking and geeks like Elon Musk, Steve Wozniak, and Bill Gates have already warned us of the risks posed by AI. But there is no immediate threat in sight.

<https://e27.co/20-cool-artificial-intelligence-startups-asia-caught-eye-20171017/>



IS STEPHEN HAWKING RIGHT? COULD AI LEAD TO THE END OF HUMANKIND?

The famous physicist, Stephen Hawking, mentioned his concern over the development of machines that might surpass us. "Once humans develop artificial intelligence, it would take off on its own and re-design itself at an ever increasing rate," he reportedly told the BBC." The development of full AI could spell the end of the human race."

Could thinking machines take over?

The issue of machine intelligence goes back at least as far as the British code-breaker and father of computer science, Alan Turing in 1950, when he considered the question: "Can machines think?"

The issue of these intelligent machines taking over has been discussed in a variety of popular media and culture. Think of the movies Colossus – the Forbin project (1970) and Westworld (1973), and Skynet in the 1984 movie Terminator and sequels, to name just a few.

Machines already taking over

In the meantime, we see increasing amounts of responsibility being delegated to machines. On the one hand, this might be hand-held calculators, routine mathematical calculations or global positioning systems (GPSs).

On the other hand, this might be systems for air traffic control, guided missiles, driverless trucks on mine sites or the recent trial appearances of driverless cars on our roads.

Humans delegate responsibility to machines for reasons including improving time, cost and accuracy. But nightmares that might occur regarding damage by, say a driverless vehicle, would include legal, insurance and attribution of responsibility.

It is argued that computers might take over when their intelligence supersedes that of humans. But there are also other risks with this delegation of responsibility.

Read more at: <https://phys.org/news/2014-12-stephen-hawking-ai-humankind.html#jCp>

AI Robots Full 2018 Documentary ~ Taking Over The World https://www.youtube.com/watch?v=y_HotWXkXy0

We Talked To Sophia — The AI Robot That Once Said It Would 'Destroy Humans' <https://www.youtube.com/watch?v=78-1MlkxyqI>

RACE FOR TECHNICAL SUPERIORITY

Wining the **digital race** to achieve **technical superiority** over competitors involves gathering data to make sure you are not the next taxi company or hotel chain caught off guard by Uber or Airbnb.

Venture capitalist Marc Andreessen declared in:

- 2011 that **'software is eating the world'** such as Uber is eating taxis and AirBnB eating hotels. *'Thanks to software, we no longer have to bring maps with us, we don't have to wait for the newspaper to be delivered at our doorstep, as all of our previously physical and bulky tools are now in our phones.'*
<https://futurism.com/software-is-eating-the-world-and-you-need-to-see-it/>
- 2017 that **'software is programming the world.'** He predicted that in the near future *'chips will be free and be embedded in everything.'*

CODING THE CRYSTAL BALL

In the future detailed information from databases will be overwhelming! Apps such as Waze will track the flow of users, such as road workers blocking a lane. Autonomous cars will know the position of lampposts and cities will resurface roads when required. Streetlights will be replaced when they go out, and police will have more data on people walking along streets



In the end, it all comes down to people and values. We need to shape a future that works for all of us by putting people first and empowering them. In its most pessimistic, dehumanized form, the Fourth Industrial Revolution may indeed have the potential to “robotize” humanity and thus to deprive us of our heart and soul. But as a complement to the best parts of human nature—creativity, empathy, stewardship—it can also lift humanity into a new collective and moral consciousness based on a shared sense of destiny. It is incumbent on us all to make sure the latter prevails.

<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

How Software Really is Eating the World <https://www.youtube.com/watch?v=d-HhYwMpbYI>

DID YOU KNOW?

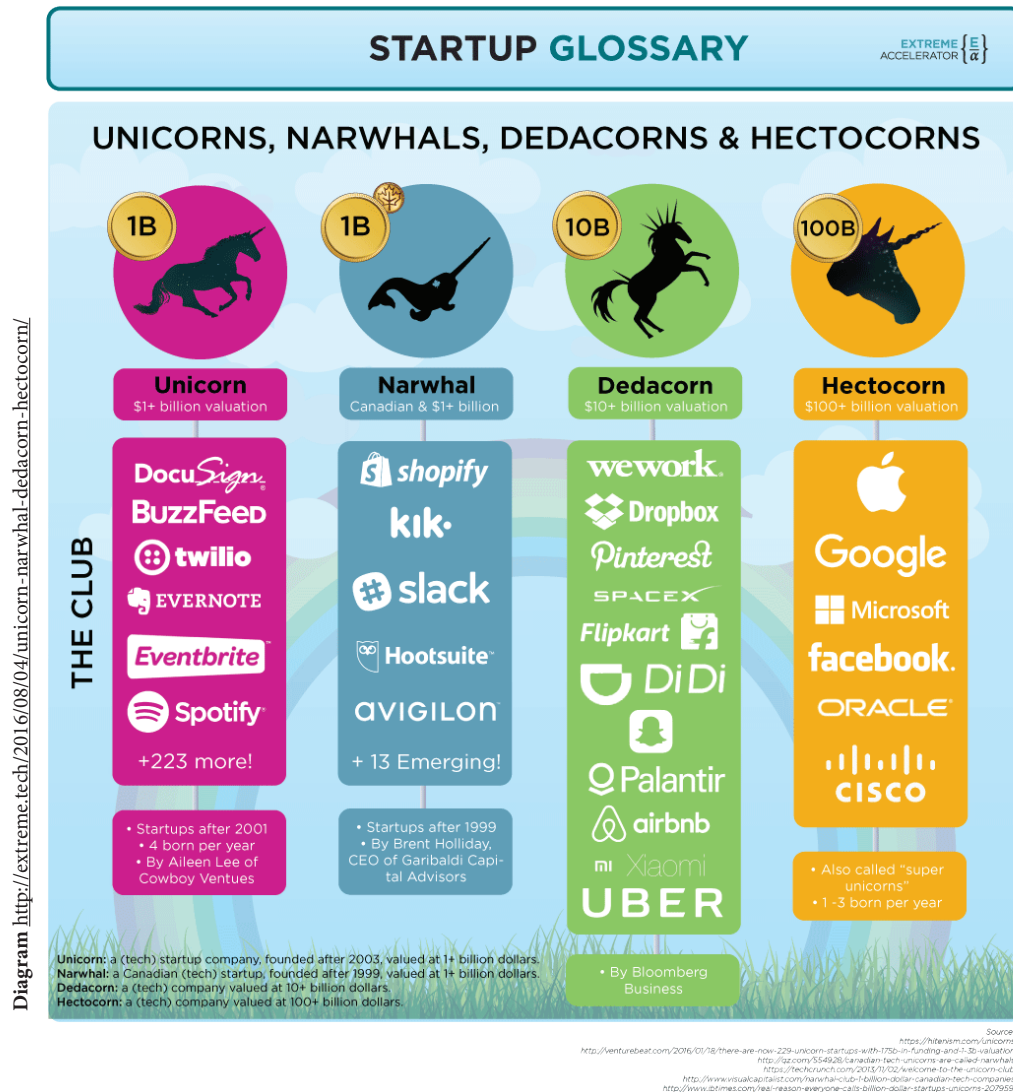
- Since the 1980s the world's technological per capita capacity to store information doubled every 40 months.
- Decoding the human genome originally took 10 years, now it can be achieved in less than a day.
- The Large Hadron Collider data flow is equivalent to 500 quintillion (5×10^{20}) bytes per day, almost 200 times more than all other data sources combined in the world.
- IoT devices surpassed mobile phones as the largest category of connected devices.
- In 2016, three main industries in terms of IoT spending were, manufacturing, transportation and utilities. Consumer IoT spending ranked fourth.



ACTIVITIES

- Explain the diagram above
- What is Big Data?
- List the Five Vs of Big Data.
- How many times a day are you and your family handing out information to data collecting agencies? List the data collecting agencies.
- Describe how Big Data is essential for work in retail and sports sectors.
- What do the following acronyms mean? ICT, AI, IoT, IoE and Fintech.
- List the IoT in your house and school.
- Explain the growth of ICT, especially in Asian countries.

- Distinguish between the four types of Startup enterprises. In groups, select one enterprise in an Asian country and outline its main goals and financial success.



- Using the internet explain the following words: augmented reality, predictive modelling, e-commerce, firewalls and coding.
- Explain why creative thinking, such as analytical skills and predicted models are important for future decisions, such as Climate Change.
- Define the internet of things and how it provides opportunities for work.
- Research a smart house and a smart city.
 - Present as an annotated diagram
 - Mind map the enterprises required to deliver a smart city
- Big and Open data is important for the success of the United Nations 2030 Sustainable Development Goals (SDG). What is meant by open? How can Big Data from satellite imagery aid the progress of the SDG?
- Explain what is meant by geospatial data and why it is important to sustainably manage the environment.
- Big Data is not available to everyone. Discuss inequalities in access to, and use of ICT services across the world. Suggest strategies to reduce inequalities.
- Explain how the following is helping close the climate change knowledge gap:
 - big and open data
 - predictive modelling
 - analytics
 - technology

- Discuss IoT security problems and strategies aimed to reduce cyberattacks.
- Describe the digital race. Why do you think this race is occurring? Divide your answer into economic, social and environmental factors.
- Distinguish between 'software eating the world' and 'software programming the world'.
- Mindmap the types of work available to students in the future.
- In groups explain 5 of the 50 sensor applications for a smarter world. Present as a photo story
http://www.libelium.com/resources/top_50_iot_sensor_applications_ranking/;
<https://www.dreamstime.com/stock-illustration-smart-city-concept-internet-things-different-icon-elements-modern-design-future-technology-living-image66500537>
- Couch Surfing-a startup company
 CouchSurfing is a community of over 14 million members. It allows travellers and locals to connect with each other online, so that they can share hospitality, cultures and adventures. Investigate the technology required for a couch surfing company to prosper.



- People and Economic Activity
 Investigate one Asian technology company and include:
 - the nature of the economic enterprise
 - locational factors
 - internal and external linkages
 - flows of people, goods, services and ideas
 - effects of global changes on the enterprise
- While the true potential of AI is yet to be unleashed, a few entrepreneurs are already making inroads into various industry verticals using cutting-edge solutions. Find out more about AI start-ups in Asia at
<https://e27.co/20-cool-artificial-intelligence-startups-asia-caught-eye-20171017/>

RESOURCES

- Billion dollar startup club <http://graphics.wsj.com/billion-dollar-club/>
- Data ecosystem <http://www.networkimpact.org/wp-content/uploads/2015/10/DataEcosystem.png>
- Earth Observations support 2030 Agenda for Sustainable Development http://ceos.org/document_management/Ad_Hoc_Teams/UNSDGs/SDG_General%20doc/EO-for-2030-Agenda-for-SD_21Mar2017.pdf
- Fastest startups to hit \$1 Billion valuations <http://www.visualcapitalist.com/fastest-startups-hit-1-billion-valuations/>
- How many times a day do you hand out your data? <http://privacyguidance.com/blog/wp-content/uploads/2013/10/Herold-Tracked-Throughout-Day-Infographic.jpg>
- Internet of Things <https://www.i-scoop.eu/internet-of-things-guide/>
- Internet of Things: complete guide – benefits, risks, examples, trends <https://www.i-scoop.eu/internet-of-things-guide/>
- Tracking venture-backed private companies valued at \$1 billion or more <http://graphics.wsj.com/billion-dollar-club/?co=Palantir>
- UN data revolution <http://www.undatarevolution.org/report/>
- Unicorn companies-trends and startups <http://try.alex.com/resources/running-with-unicorn-companies>
- UN-vital role of geospatial data to achieve sustainable development goals <http://www.un.org/apps/news/story.asp?NewsID=51608#.WTJo2cYIGUk>
- Using Big Data for the Sustainable Development Goals <https://unstats.un.org/unsd/trade/events/2015/abudhabi/presentations/day3/02/2b%20A-Using%20Big%20Data%20for%20the%20Sustainable%20Development%20Goals%2010222015.pdf>
- Video: Big Data for Sustainable Development <http://www.unglobalpulse.org/about-new>



Cartoon

<https://bigdatabigbrotherbigboon.files.wordpress.com/2016/10/5310c94b49b2e946c88ff4c6ca51cc0f.jpg?w=648>

Water in the World

Myanmar Festival | The Boat Race Celebrations at Inle Lake
(Stage 4 Geography)

By Judy Pilch



<https://pixabay.com/en/burma-inle-lake-fishermen-1626755/>

OUTCOMES

A student:

- locates and describes the diverse features and characteristics of a range of places and environments GE4-1
- describes processes and influences that form and transform places and environments GE4-2
- explains how interactions and connections between people, places and environments result in change GE4-3
- discusses management of places and environments for their sustainability GE4-5
- acquires and processes geographical information by selecting and using geographical tools for inquiry GE4-7
- communicates geographical information using a variety of strategies GE4-8

Related Life Skills outcomes: GELS-1, GELS-2, GELS-3, GELS-5, GELS-7, GELS-8

The annual Boat Race takes place on Inle Lake, Myanmar every September/ October to celebrate the Buddhist celebration called the Paung Daw Oo Pagoda festival. It is the largest festival in Myanmar and starts on the first day of the waxing moon and lasts for 18 days until the 3rd day after the full moon. During this time, teams of boatmen called leg rowers, from different lakeside villages, gather together to race in an extraordinary spectacle. The one-legged rowing technique rowers, curl their leg around the paddles or oars to the beat of a loud drum and push the boat through the smooth, calm, shallow bright blue waters of the lake.

Inle Lake, famous for its Intha (sons of the lake) culture, is just south of Taunggyi, the capital and largest city of Shan State, about 1400 meters above sea level in the lush green Shan Hills.



Inle Lake is near the town of Taunggyi

<https://www.flickr.com/photos/ooyooy/8673414/in/gallery-connect2012-72157633284477552/>

The men stand in their boats and synchronise their arms and legs, paddling in unison, to the call of the boatman leader. They can be heard before they can be seen by visitors on the lake. They suddenly appear from many brown water tributaries or side rivulets that enter the lake amongst tall reeds and emerge on the lake excitedly screaming out team rowing calls in bright team colours, ready to compete in a race. Sometimes, there is so much lake weed growing on the bottom of the lake, that the boats' oars get tangled. The lake needs to be carefully prepared so that the excess weeds do not cause a hazard. As a result, large piles of vibrant green weeds can be seen piled high on the floating vegetable patches in amongst the flourishing bright red crops of tomatoes.

The value of the tomato crops is the highest to the floating gardeners contributing over \$13,000 per hectare per year. Tomatoes are often intercropped with cucumbers and sweet or chilli peppers to reduce production risks from price variations when selling tomatoes.





The race is held in front of an incense filled five-storey tall golden pavilion where hundreds of Buddhist worshippers gather together from early morning to gain a good seat with a clear view of the finish line.

Devout Buddhists bring offerings of fruit, flowers, rice and other foodstuffs on silver dishes which they lay on the five altars in front of each of the five large statues of Buddha spread around the high ceiling pavilion. There are chanting Buddhists, children playing patiently, family reunions, hill tribes and tourists all gathered together sitting on the tiled floor waiting from early morning in anticipation of the great race. Each hill tribes has a unique way of dressing with colourful headwear made out of bright colours of stiff fabric and folded back from the forehead to give height and elegance to their appearance.



<https://pixabay.com/en/myanmar-in-lake-market-2327595/>

Tourism in the lake area brings international chains of hotels, business infrastructure such as telecommunications, global finance investment and skills, creates employment for chefs, cleaners, hotel receptionists, drivers, managers, IT staff, tour guides, translators and entertainers. However, there are concerns that locals do not benefit from tourism as expected because large global hotels receive most of the tourism revenue and keep profits, or tourists pay government officials, through tour guides, for large lake entrance fees. Some see tourism as a problem instead of a growth opportunity: *“the natural beauty of Inle drives tourism, not the other way around”* (Linn, 2015). Some say hotel construction required trees to be cut which caused soil to fall down slopes into the lake and reduce water depth for tourism boat and floating agriculture.

In the middle of each of the boats is a long platform where dancers perform the traditional Shan Mountains dances and martial arts.



Most of the people at Inle Lake have Tibeto-Burmese ethnicity from the Shan, Taungyo, Pa-O, Danu, Kayah, Danaw and Bamar ethnic groups.

Tourists hire motorised canoes and a boatman to travel along the 22 kilometres lake to see the local sites including the traditional houses which are built on silts.



<https://pixabay.com/en/myanmar-inle-lake-house-3686770/>

They also see craft studios where locals engage in lotus weaving, silk weaving, silversmith activities and jewellery making.



Traditional Karen women with gold neck wrings at the craft market.

A highlight is the 5 day markets which rotate weekly around the markets and they try to catch a glimpse of the hill tribes who bring their spice, fruit and vegetables produce and craft wares to the market on the back of large trucks.





Markets where spices and produce are sold

A large golden royal barge takes the Buddhist statue to local villages and villagers gather for the procession to see the barge return to the main festival site, Paung Daw Oo Pagoda. On arrival the statues are returned to the pagoda before the big race starts.

Visitors have to try to find a mooring for their canoe and often have to deftly navigate rickety timber planks to cross from one boat to another to gain access to stairs to the pagoda. Hundreds of buddhist monks arrive in their brightly coloured saffron robes along with nuns, tour groups sheltering from the sun under coloured umbrellas, children in their best clothes and colourfully clad village tribes.

Barges with traditional Shan mountain dancers wearing golden headdresses adorn the waterfront and entertain the crowds. Each village has its own traditional fabric that men wear folded into a dark, check, long skirt like a sarong, called a pasoe or a longyi, and girls wear in a htamein, a multi coloured, multi patterned long skirt. The dancers wear pretty pink or blue bodices covered by a transparent fine white or pink jacket. Some traditional older men wear turban and embroidered jackets while younger workers on oats wear pale yellow or white cotton trousers and open shirts with the same matching cotton loosely tied scarfs around their head.

Inside the main pagoda visitors walk solemnly around the main altar which is decorated with fabric pelmets, silver embellished mini pagodas, mini ceremonial umbrellas and curtains pulled back. Here people pay homage, kneel in prayer and offer their gifts. It is well lit and open to anyone to step up, enter and explore.





Teams prepare to compete in the race at the festival.

Activities



1. Describe the economic value of Inle Lake to farmers who work on the floating gardens.

2. Use the table below to describe the economic value of Inle Lake to local farmers, as well as to locals from tourism and to villagers.

Economic value of the lake to - Farmers	Economic value of the lake to - Locals from tourism	Economic value of the lake to - Villagers from environmental changes
Positive or negative? Tomato crops sold	Positive or negative? Employment skills	Positive or negative?

In your own words write a summary here:

3. Outline the cultural and spiritual value of Inle Lake waters to villagers surrounding the lake.

Cultural value	Spiritual value

In your own words write a summary here:

4. Discuss the people's perceptions of the economic versus the aesthetic value of water in Inle Lake.

Economic value	Aesthetic value

In your own words write a summary here:

5. Compare the importance of water to the floating gardeners at Inle Lake with the importance of water to an Aboriginal community in Australia.

In your own words write a summary here:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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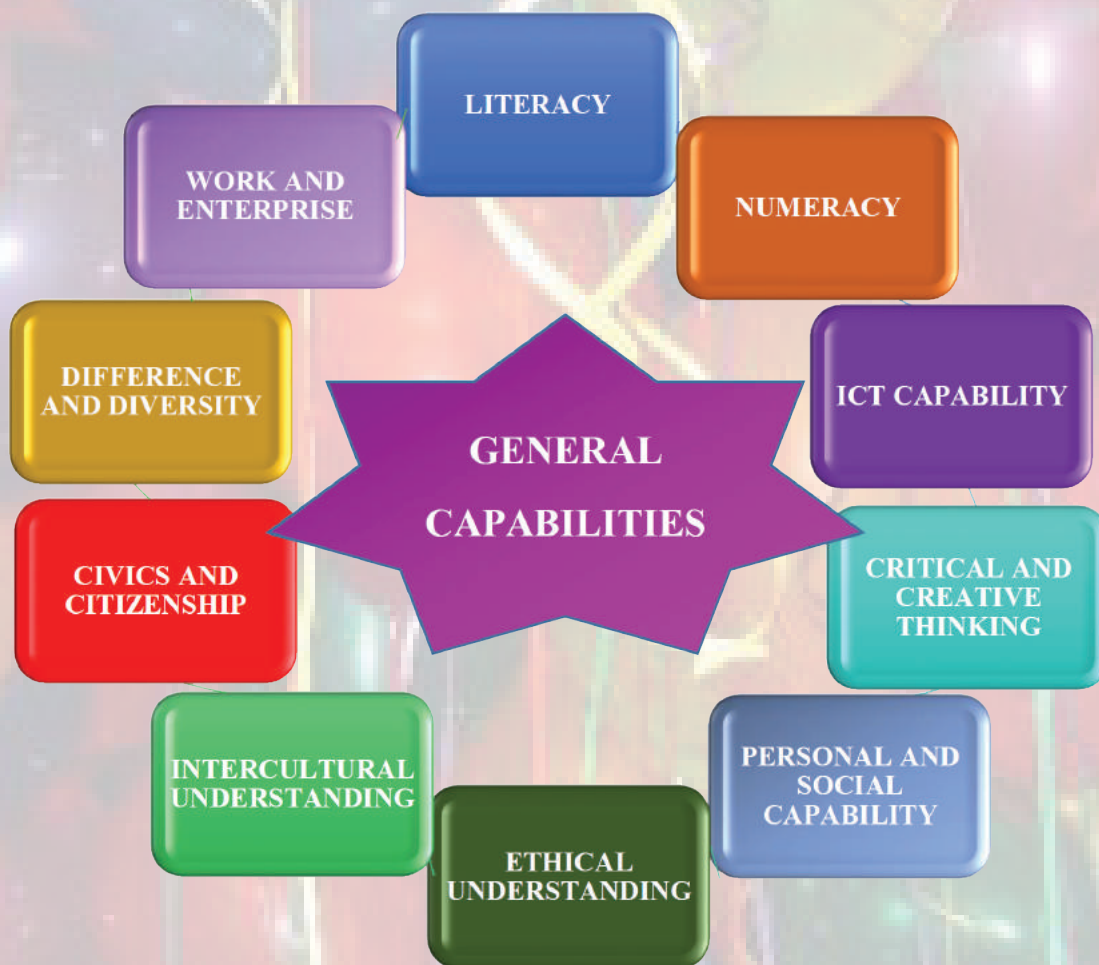


<https://pixabay.com/en/waters-fisherman-sky-inle-lake-3312095/>

Welcome to Dollar Street

By Dr. Susan Bliss

Where Country Stereotypes Fall Apart



Background: http://www.peninsulaparty.com/sitebuilder/images/Balloons_on_the_ceiling_447x331.jpg

Imagine the world as a street. All houses are lined up by income, the poor living to the left and the rich to the right. Everybody else lives somewhere in between.

Where do you live?

Does your life differ from people living in Asian countries, who share similar incomes?

Dollar Street, aims to humanise differences between people, and breakdown stereotyping by showing a myriad of similarities across countries and cultures.

What is Dollar Street?



Dollar Street is a **website (ICT)** that features more than 300 homes from 52 countries. At present the website contains over 30,000 photographs and 10,000 videos. The aim of the website is for students' to observe a broad diversity of families around the world earning different incomes, and compare their lifestyles within and between countries, cities and rural areas.

The ultimate goal of the website is to make **Dollar Street** a collaborative platform, in which everyone is able to upload photographs of their homes, and then analyse similarities and differences around the world. Fortunately for students, the website presents global social data in accessible ways and is **free** to reuse, edit and share.

Explore Similarities and Differences within and Between Asian Countries

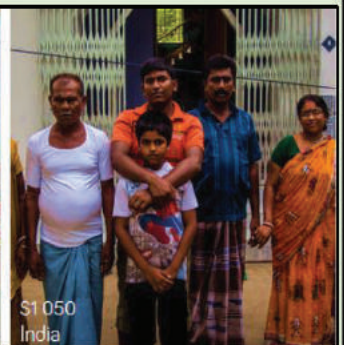
Read more about the following Asian families at <https://www.gapminder.org/dollar-street/matrix?thing=Families&countries=World®ions=World&zoom=4&row=1&lowIncome=26&highIncome=15000&lang=en>

POOR

RICH

INCOME PER MONTH

INDIA: \$65-\$1,050 a month



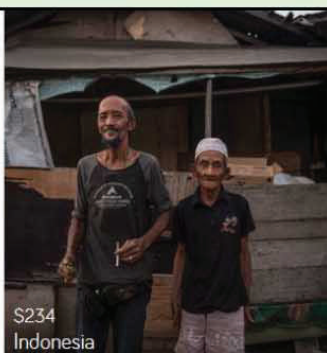
BANGLADESH: \$58-\$175 a month



CHINA: \$132-\$10,098 a month



INDONESIA: \$115-\$1,017 a month



CAMBODIA: \$60-\$1,522 a month



ICT Activities

Visit the following websites to obtain an overview of Dollar Street

- Dollar Street: Families of the world
<https://www.gapminder.org/dollar-street/matrix?thing=Families&countries=World®ions=World&zoom=4&row=1&lowIncome=26&highIncome=15000&lang=en>
- Find out how people really live <http://www.mynewsdesk.com/se/pressreleases/welcome-to-dollar-street-where-country-stereotypes-fall-apart-1610578>
- Daily life at different income levels
<https://www.citylab.com/life/2016/10/daily-life-at-different-income-levels-dollar-street-wealth-inequality/505943/>

Activity:

Differences between cultures and income run deeper than can be fully expressed through statistics and a collection of photographs. Explain this statement.

CURRICULUM-SYLLABUS

This resource is useful for students studying Geography:

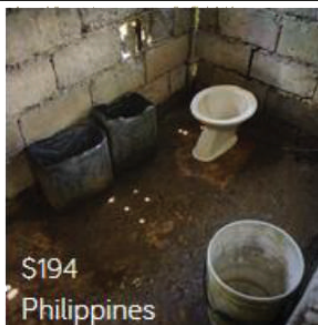
Stage 4 (Year 6-Diverse and Connected World)

Stage 5 (Year 10-Human Wellbeing)

Includes

Geographical Tools: Photographs, maps, graphs and statistics

Geographical Inquiry: Acquire, process and communicate geographical knowledge



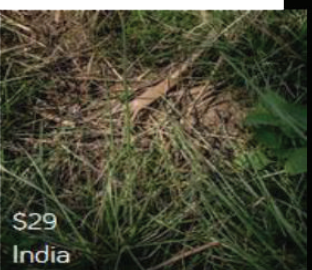
\$194
Philippines



\$201
Nepal



\$10 098
China



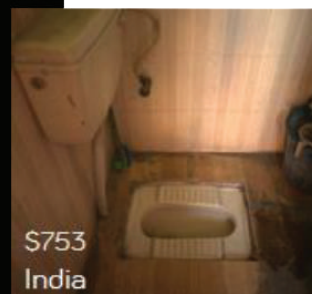
\$29
India



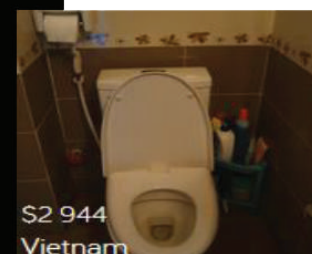
\$132
Nepal



\$195
Philippines



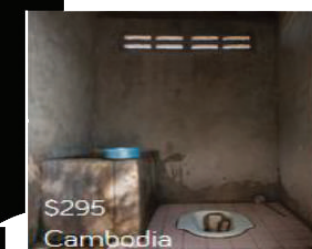
\$753
India



\$2 944
Vietnam



\$308
Indonesia



\$295
Cambodia

- *GENERAL CAPABILITIES**
 - The concept *Dollar Street* was invented by Anna Rosling Rönnlund at **Gapminder (ICT)**
 - The goal of *Dollar Street* is to make 'everyone' understand how people 'really' live-beyond the **stereotypes (Difference and Diversity, Intercultural Understanding, Personal and Social Capability)**.
 - Dollar Street* uses photographs as data. This **Visual Literacy**, is supported with notes as well as statistics and interactive graphs from **Gapminder**.
 - Dollar Street* reinforces **Critical and Creative Thinking** and **Ethical Understanding**.
- Students will be able to:
 - Measure, map and compare human wellbeing and development, within and between countries. (**Numeracy**).
 - Investigate a diversity of Asian families' - their source of income (work), and resultant lifestyle-homes, food and amenities. (**Work and Enterprise**).
 - Propose strategies to improve human wellbeing of poor people living in Asian developing countries (**Civics and Citizenship**).
 - Evaluate the economic and social progress of families' and their Asian country, towards achieving **Sustainable Development Goals (2030)**.

PHOTOGRAPHS: TOILETS IN ASIAN COUNTRIES AND MONTHLY INCOME

Dollar Street toilets <https://www.google.com.au/search?q=Dollar+Street+toilets&client=firefox-b&dc=0&tbm=isch&tbo=u&source=univ&sa=X&ved=0a-hUKEwjYyPSMuYHZAhXDx7wKHV9PAcQQsAQILA&biw=799&bih=910>

ICT Activities

- Discuss the relationship between the type of toilet and monthly income <http://www.forum.susana.org/various-technology-topics/22125-photos-of-the-world-s-toilets-according-to-income-levels>
- Research the relationship between health and access to adequate sewerage systems. Follow the inquiry process by acquiring, processing and communicating information. <http://www.health.gov.au/internet/publications/publishing.nsf/Content/ohp-enhealth-manual-atsi-cnt-l-ohp-enhealth-manual-atsi-cnt-l-ch2~ohp-enhealth-manual-atsi-cnt-l-ch2.3>
- YouTube: Toilets Dollar Street <https://www.youtube.com/watch?v=20xnFD4Ko7M>

Dollar Street Website Contains Countless Topics

Teaching Topics at this Website

<https://www.gapminder.org/dollar-street/matrix?thing=Families&countries=World®ions=World&zoom=4&row=25&lowIncome=26&highIncome=15000&lang=en>

Examples of Topics



This pit latrine belongs to Sabatrirani Bishash, a businesswoman living in Kahana, Bangladesh. She lives with her three children and has a monthly income of \$125.

<https://www.npr.org/sections/goatsandsoda/2017/11/19/564866281/photos-peep-at-the-toilets-of-7-families-around-the-world>

Popular Topics



Beds: http://static.dollarstreet.org.s3.amazonaws.com/media/IMGforArticles/image/2b50fa47-7592-4c7a-b91a-52208df2d86b/original-2b50fa47-7592-4c7a-b91a-52208df2d86b.png?_ds=1475852232871

ICT Activities

- Discuss how photographs of toys and toilets teach us about income inequality.

<https://www.fastcompany.com/3064671/what-photos-of-toys-and-toilets-can-teach-us-about-income-inequality>

Myanmar: Monthly Income \$45



The **Raju family** lives near Thanlyin in Myanmar. Raju is 81 years old and is a rice farmer. He lives with 6 other family members in a 1-bedroom house. They have been living here for 55 years. The nice thing about the house is that it is close to the rice fields, but the family has no land title. They live here because they were given temporary permission by the government to squat. The next thing they plan on buying are batteries for light. Their dream is to own a piece of land.

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=21&lowIncome=26&highIncome=15000&place=56098a94555bf97705720e39&lang=en&activeImage=63>



ICT Activities



In pairs select one **family** below, and write a narrative about their lifestyle.
Refer to **Gapminder** to determine the Gross Domestic Product (GDP) and the Human Development Index (HDI) of the country, and its trends over time.
Present investigation using ICT.

\$ 4 609/Month
Tse family, China



The Tse family lives in Hong Kong, China. Rose is a retired worker and she lives with her 4 children in a 9-bedro...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=55cca7512ae4cb4667610251&lang=en>

\$ 306/Month
Ros family, Cambodia



The Ros family lives in the Tboung Khmum Province, Cambodia. Sopha is 49 years old and is a farmer. His wife Sid...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=54b39b6ea5a3d7566eb00326&lang=en>

\$ 31/Month
Chandmoni Bibi family, India



The Bibi family lives in Calcutta, India. Abdul Khalid is 40 years old and is a labourer. His wife Chandmoni is 3...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=55701b7a264c39803ebfa785&lang=en>

\$ 3 829/Month
Bastakoti family, Nepal



The Bastakoti family lives in Kathmandu in Nepal. Navendra is 38 years old and owns a travel agency. His wife Sav...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=54b7d69625003a824f64897c&lang=en>

\$ 175/Month
Hossain family, Bangladesh



The Hossain family lives in Dhaka, Bangladesh. Mohammed is 35 years old and works as a rickshaw driver. His wife ...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=56057b4f6872a18820d19575&lang=en>

\$ 169/Month
Pradas family, Philippines



The Pradas family lives in Manila in the Philippines. Guiaria is 55 years old and she is a housewife. She lives w...

<https://www.gapminder.org/dollar-street/family?thing=Homes&countries=World®ions=World&zoom=3&row=1&lowIncome=26&highIncome=15000&place=54b81475c302faad4f3af1c0&lang=en>



What Does a Tooth Brush Tell Us About Inequality

Source: <https://ideas.ted.com/what-our-toothbrushes-tell-us-about-inequality/>

Mud

A woman living on less than \$1 a day points to the mud walls of her hut. She scrapes some mud off the building, she mixes it with water in her hand, and then brushes her teeth.

Twigs

For a family that cannot afford a plastic toothbrush, a sharpened stick from a branch can serve as a handy alternative.

Family toothbrush

A poor family points to a single, shared toothbrush for the household. How many toothbrushes can a family afford? "The wealth trend goes from having no plastic toothbrush, to possessing one, then to owning many plastic toothbrushes."

Clever shelving system

In Nepal the family slots toothbrushes handle-first into the wall, to enable the bristles to dry in the air. It also helps keep the toothbrushes clean.

Tidy stack

In the Philippines toothbrushes are strategically stacked on top of a plastic chair. A revealing sign of prosperity, is a spare chair for storage as well as the plastic surface is clean.

Tailor-made toothbrush

In a wealthy Vietnamese home, there are a variety of toothbrushes. A sign of the family's purchasing power is flashy toothbrushes, like the bright pink. These toothbrushes reveal that the family can afford a variety of designs tailored to adults, children and personal taste.

Pinnacle of privacy

This is 'top notch tooth-brushes' purchased by wealthy people with access to reliable and affordable electricity. The family has so much money they have one toothbrush for each person.

'Even more revealing is the absence of children's toothbrushes from the bathroom. The parents are no longer brushing their teeth in the same room as the children'

It's unimaginable decision for 1.2 billion people who still view a single, plastic toothbrush as an unaffordable luxury.



POOR

RICH



What Issues Does Dollar Street Address?

<https://365itsolutions.com/wp-content/uploads/2016/11/Cybersecurity-is-not-seen-as-a-business-issue.jpg>

KEY ISSUES

'WORLD IS DIVIDED IN TWO'	'OTHER PEOPLE ARE STRANGE'	'WE VERSUS THEM'
<ul style="list-style-type: none">• REPLY• People think there are only two ways of life-rich and poor. However, most people are somewhere in-between-middle class.• Refer to Gapminder for current Asian statistics to discover a decline in poverty in some countries, and growth of the middle class	<ul style="list-style-type: none">• REPLY• Sensational news creates the impression that people in other cultures and countries are different. Instead there are many similarities across countries and cultures.• The visual presentation, <i>Dollar Street</i>, aims to avoid stereotyping and bias.	<ul style="list-style-type: none">• REPLY• East versus West: Asians consume the same products as westerners if they can afford it.• There are more similarities than differences

How Do You Correct Fake News?



We have all heard about **fake** news! *Dollar Street* aims to spread a **fact-based worldview**, as their **Ignorance Surveys** showed that the public is misguided by many basic global facts. Unfortunately most people are not transformed into deeper understanding of contemporary global issues because many find statistics too difficult to interpret. ***Dollar Street* aims to change that!**

<https://www.gapminder.org/news/help-us-spread-a-fact-based-worldview/>
<http://www.brandpowder.com/wp-content/uploads/2012/04/real-fake.jpg>

ICT Activities

GROUP WORK

In groups select homes in one of these Asian countries:

- **India**
<https://www.gapminder.org/dollar-street/matrix?thing=Homes&countries=India®ions=World&zoom=3&row=3&lowIncome=26&highIncome=15000&lang=en>
- **China**
<https://www.gapminder.org/dollar-street/matrix?thing=Homes&countries=China®ions=World&zoom=4&row=1&lowIncome=26&highIncome=15000&lang=en>
- **Phillipines**
<https://www.gapminder.org/dollar-street/matrix?thing=Homes&countries=Philippines®ions=World&zoom=4&row=0&lowIncome=26&highIncome=15000&lang=en>
- **Indonesia**
<https://www.gapminder.org/dollar-street/matrix?thing=Homes&countries=Indonesia®ions=World&zoom=4&row=0&lowIncome=26&highIncome=15000&lang=en>

Answer the following questions:

- Explain the relationship between the house and income.
- Compare urban and rural homes and why they differ.
- In most cases cultural differences are minimal. Instead; income levels often explains a family's particular lifestyle. Explain this statement.
- What families do you think require financial and social support? Give reasons for your answer.
- Present answers as a short oral report



Teaching Resources on Dollar Street: UK Global Dimensions

<https://globaldimension.org.uk/resource/dollar-street/>

A STEM project for primary aged pupils, produced by Practical Action. Visit the Smoky Homes project



Documentary: Living on One Dollar

<https://globaldimension.org.uk/resource/dollar-street/>

2013, Chris Temple, Zach Ingrasci, Sean Leonard and Ryan Christofferson.
<https://www.wholeplanetfoundation.org/wp-content/uploads/2015/01/c2Living-on-One-Netflix-Facebook-01-01.jpeg>

Living on One Dollar is a film that highlights the strength and resilience of people living in poverty, the impact of microcredit, and how individuals can have a positive impact in the fight against poverty.

In pairs, select two Asian families from *Dollar Street* living on less than \$5 a day. Describe their lifestyle. Compare your description with your partner. Discuss how individuals, governments, non-government organisations (NGO) and international organisations (UN) have been able to improve the life of millions of Asian people. Present as a TV report with photographs and statistics.



LIVING ON ONE DOLLAR

NOW ON
NETFLIX





Photographs

There are 35 themed photo groups from *Dollar Street*.

https://d2gg9evh47fn9z.cloudfront.net/800px_COLOURBOX3908410.jpg

Below is a selection of **six themes** - toilets, chairs, water, washing machines, refrigerators and stoves:

- Answer the questions in the boxes
- Compare your lifestyle with those in the photographs
- *'Income matters more than nationality'*. What are your thoughts on this statement?



3079
Cambodia



3665
Jordan



2959
Cambodia



3665
Jordan



3115
India



3245
Thailand



2685
Nepal



3245
Thailand

They probably don't have toilet paper but have a bucket of water. What are the environmental problems concerning the use of toilet paper?

They have chairs to sit on. What type of chair do you sit on watching TV? Is it similar to any above?



2959
Cambodia



3665
Jordan



2959
Cambodia



3665
Jordan



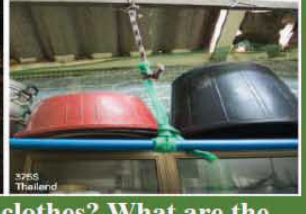
3115
India



3245
Thailand



2685
Nepal



3245
Thailand

They might drink water from a hose or a bottle. What are the environmental problems surrounding plastic water bottles?

How do you wash your clothes? What are the links between income and use of simple or complex technology to wash clothes?



2959
Cambodia



3755
Thailand



2685
Nepal



3665
Jordan



2959
Cambodia



3755
Thailand



2685
Nepal



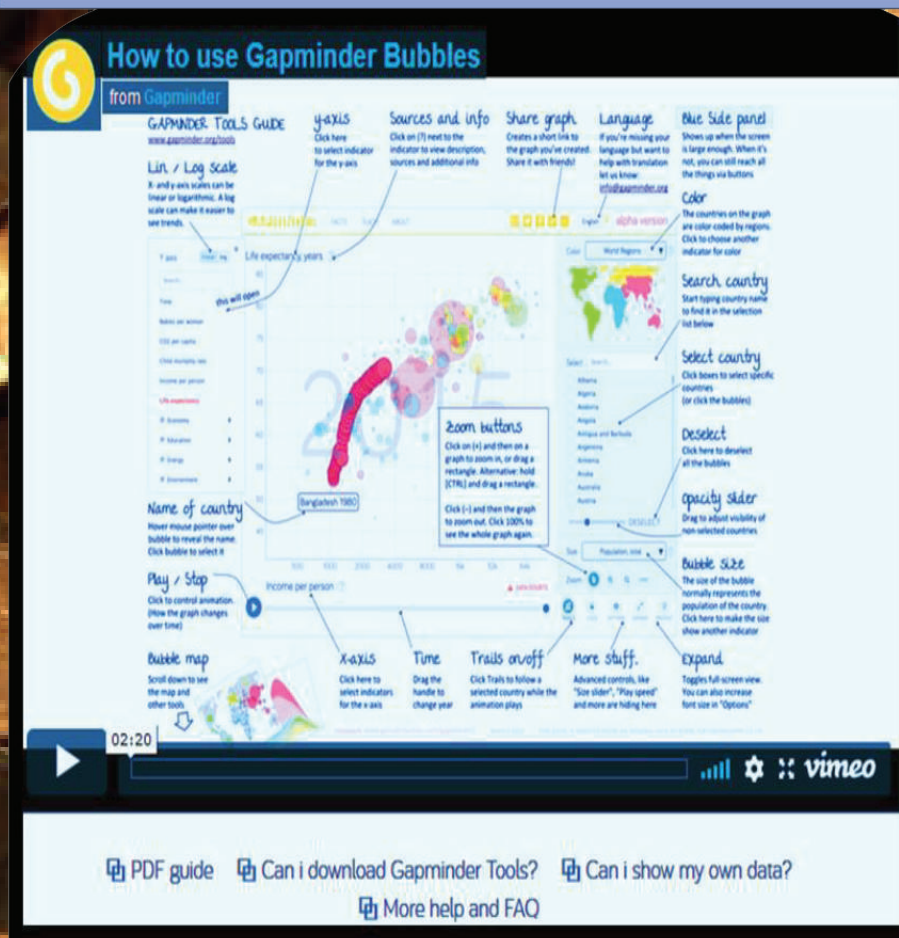
3665
Jordan

How do you store your food? Bucket or refrigerator? Why are refrigerators important in urban areas and hot environments?

They have stoves to cook on, though many are dangerously smoky. What are the health issues surrounding the use of indoor fuelwood fires?

General Capabilities Integrated in Dollar Street

1. NUMERACY



- **Gapminder** visualises a large quantity of different data related to *Dollar Street* e.g. **statistics and interactive graphs**
https://www.gapminder.org/tools/#_chart-type=bubbles.
- **Gapminder** provides statistical information on Asian countries e.g. average incomes, trends and ranks. The statistics enable students to make comparisons and correlations. At the end of the unit students will note that Asia is not a homogenous region. Instead it highlights **Difference and Diversity**.
- **Gapminder** contains tools used to present a visual image of the topic e.g. Bubbles
https://www.gapminder.org/tools/#_chart-type=bubbles.
- Source:
<https://www.gapminder.org/tools/>

- **Videos:** Using statistics, graphs, images and animated Gapminder charts
- The Joy of Stats <https://www.gapminder.org/videos/the-joy-of-stats/>
- Free statistics for democracy <https://www.gapminder.org/videos/free-statistics-for-democracy/>
- Human development trends <https://www.gapminder.org/videos/>
- Bangladesh miracle <https://www.gapminder.org/videos/gapmindervideos/gapcast-5-bangladesh-miracle/>
- Reducing child mortality <https://www.gapminder.org/videos/gapmindervideos/gapcast-11-reducing-child-mortality/>
- Two hundred years that changed the world <https://www.gapminder.org/videos/200-years-that-changed-the-world/>
- Human Rights and democracy data <https://www.gapminder.org/videos/human-rights-democracy-statistics/>
- Global trends in health-let my dataset change your mindset <https://www.gapminder.org/videos/ted-us-state-department/>
- Asia rise- how and when <https://www.gapminder.org/videos/hans-rosling-asias-rise-ted-india/>

2. LITERACY

Visual knowledge: *Dollar Street* uses Asian photographs as data to understand how people live

Word knowledge: *Dollar Street* provides written information explaining the diverse lifestyles of Asian families

General Capabilities Integrated in Dollar Street

3. ICT CAPABILITY

Dollar Street is a website.

All information is linked to ICT-photographs, videos, graphs, statistics and maps

Videos

Everyone lives on Dollar Street <https://www.gapminder.org/videos/everyone-lives-on-dollar-street/>

Using photographs as data to understand how people live <https://www.gapminder.org/videos/using-photos-as-data-to-understand-how-people-live/>

Aha! Now I get how everybody lives! <https://www.gapminder.org/videos/aha-now-i-get-how-everybody-lives/>

4. ETHICAL UNDERSTANDING

Exploring values, rights and responsibilities.

Is it fair more people are poor compared to a few who are mega rich?
Do you have compassion for those families that are struggling to survive daily on less than \$5 a day?

4. INTERCULTURAL UNDERSTANDING

Avoid stereotyping people who live in Asian countries.

Recognise different cultures and develop respect and understanding.
Empathise with those families that are less fortunate.

5. CIVICS AND CITIZENSHIP

What are you going to do about poverty and inequality?

Governments, non-government organisations (NGO), international organisations (UN) and individuals, work towards achieving Sustainable Development Goals 2030.

6. WORK AND ENTERPRISE

Type of work is linked to wages e.g. rice farmers and labourers tend to receive lower wages in all Asian countries.

Issues of unemployment, unskilled and uneducated workers, and growth of work in the informal sector (Personal and Social Capability)

7. PERSONAL AND SOCIAL CAPABILITY

Continually reinforced by families, especially those who are forced to survive on low incomes.

As responsible global citizens aware of inequality and poverty, what steps can be taken to make a positive difference to these peoples' lives?

8. DIFFERENCE AND DIVERSITY

Within and between countries.

Avoid stereotyping and bias.

Video: Difference over time: The change from large to small families in Singapore reflects dramatic changes in people's lives.

<https://www.gapminder.org/videos/singapore-in-a-global-perspective>

9. CRITICAL AND CREATIVE THINKING

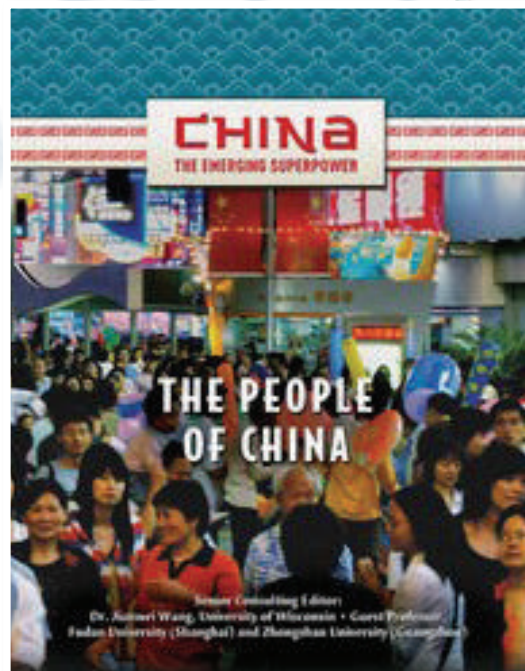
The website presents different perspectives in a visually attractive format

Video: Population growth explained with IKEA boxes

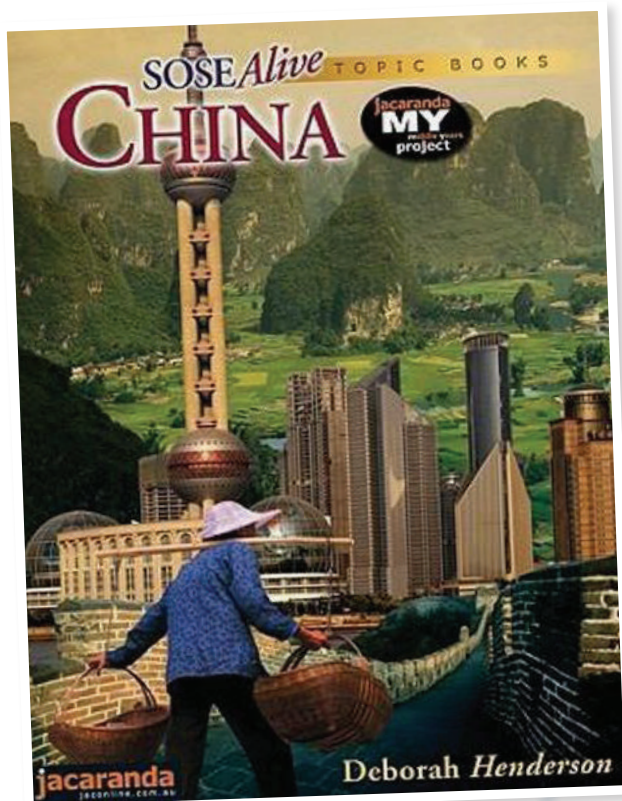
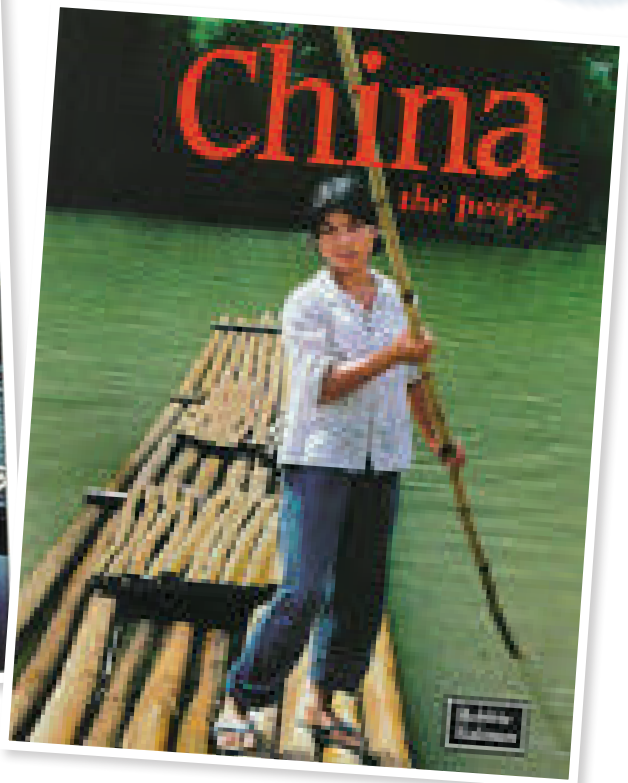
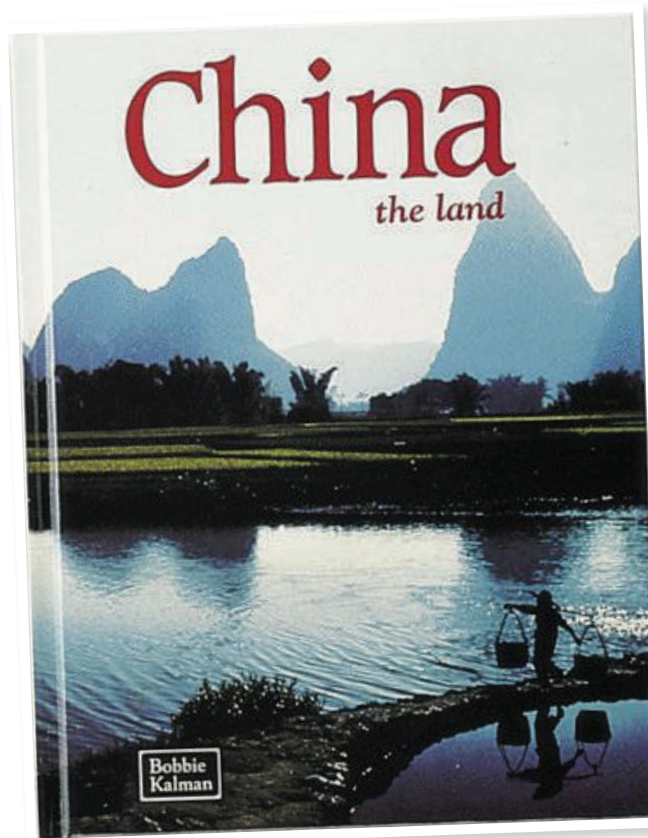
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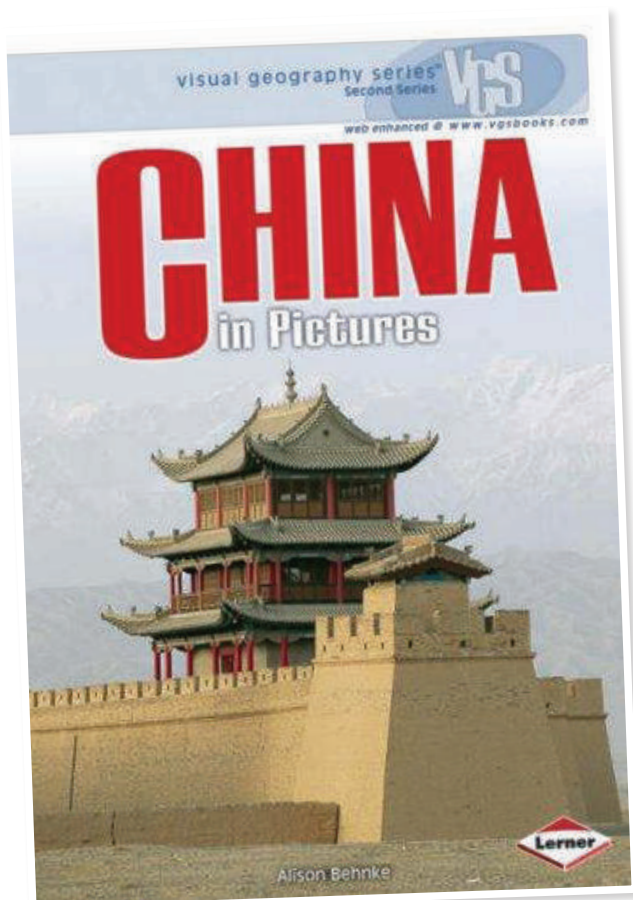
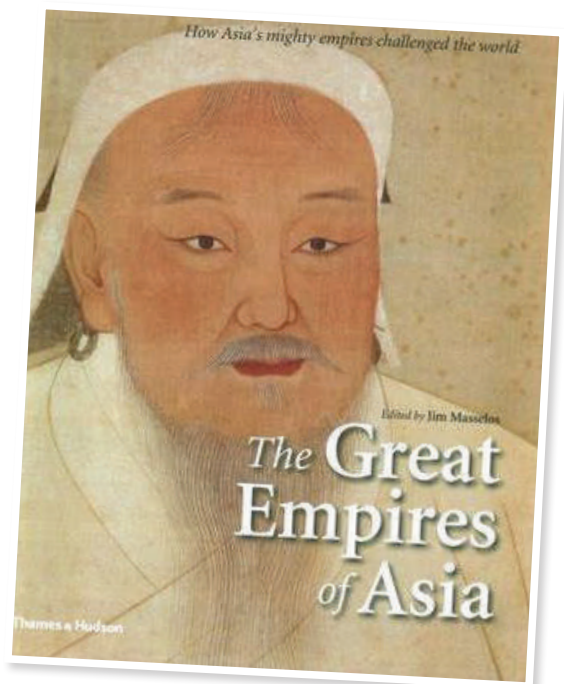
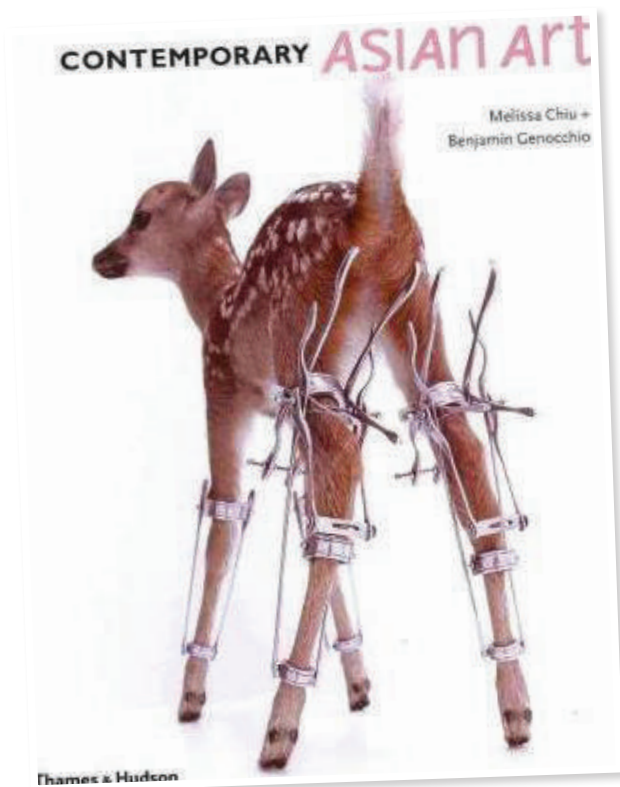
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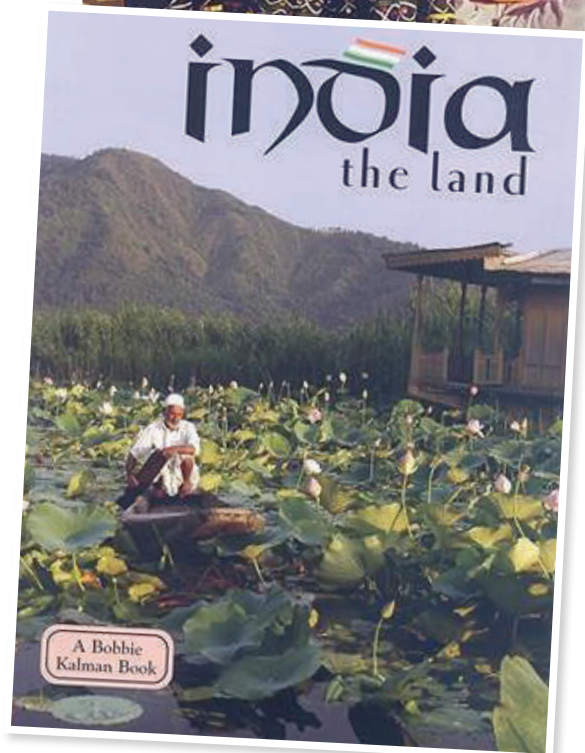
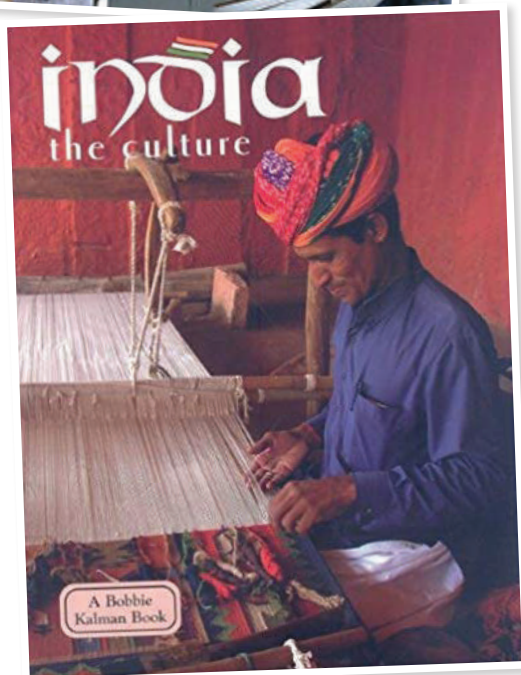
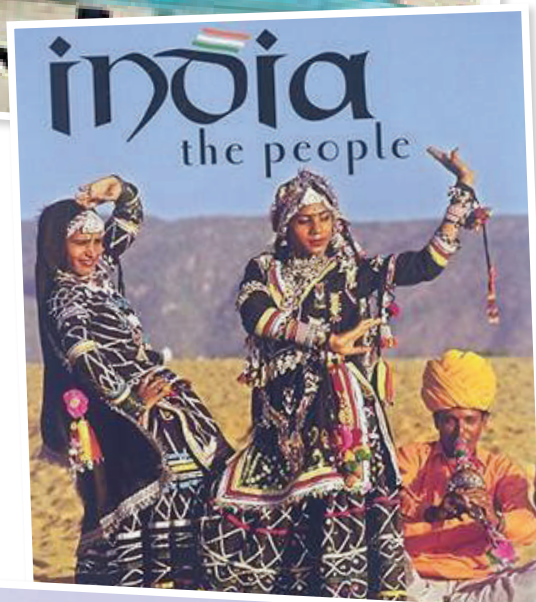
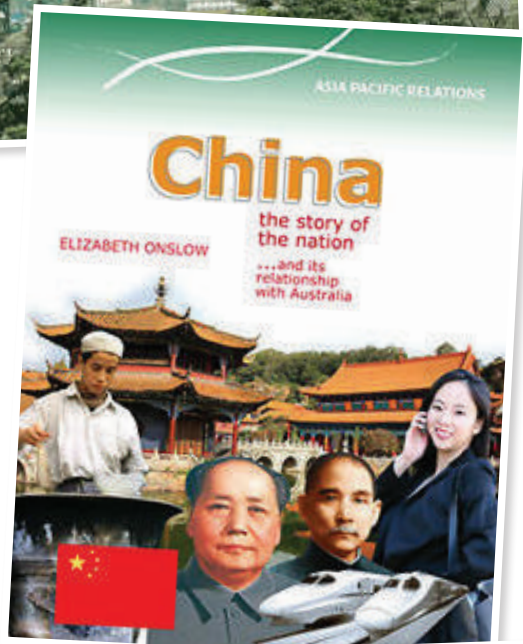
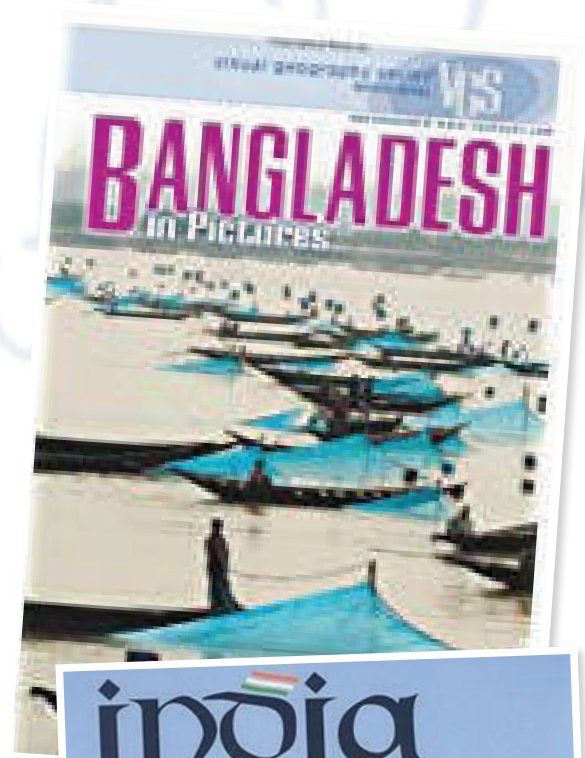
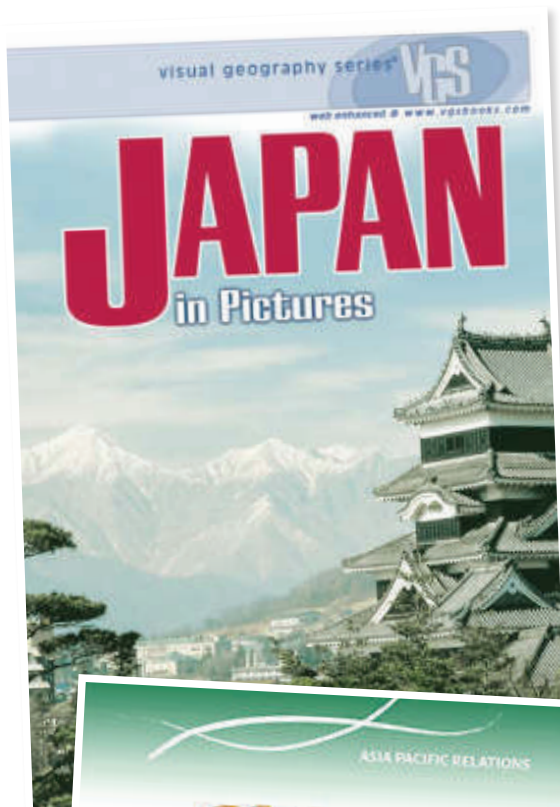
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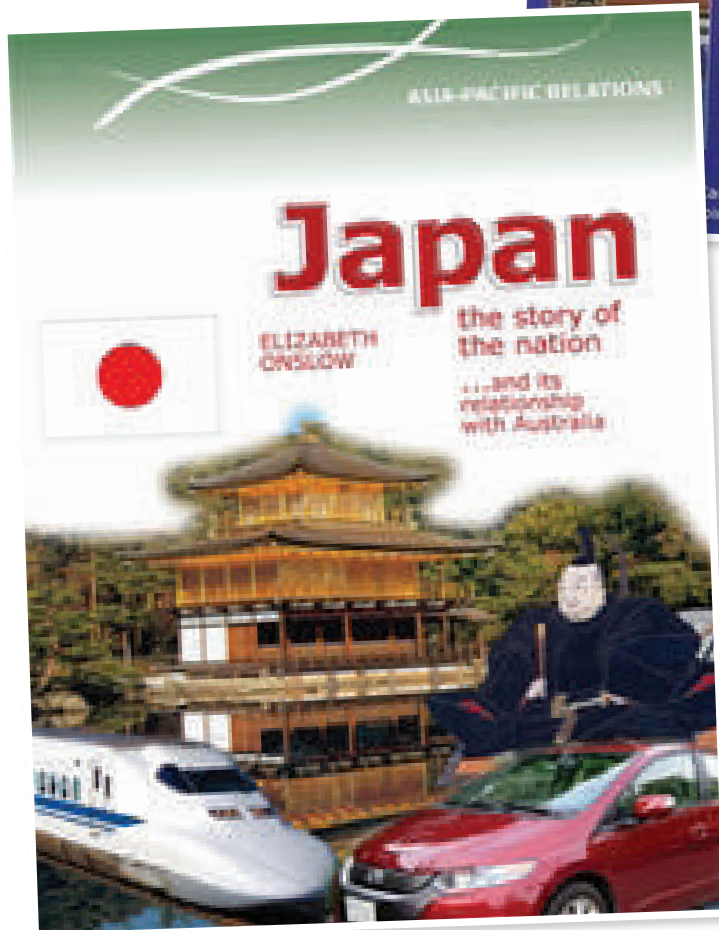
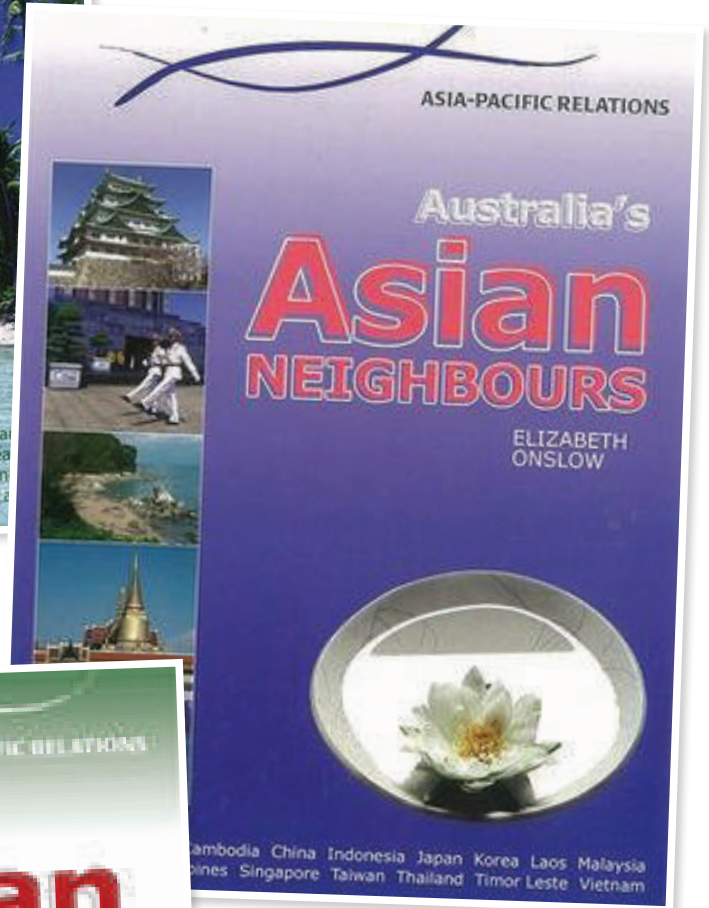
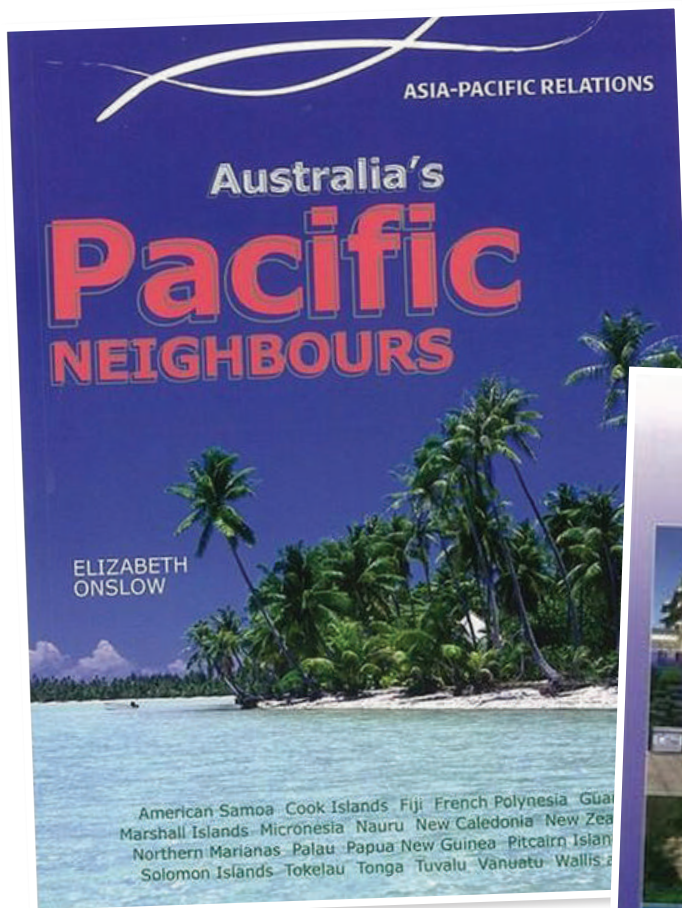


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Asylum Seekers and Immigration Detention

Volume | 353



Edited by Justin Healey

ISSUES
IN SOCIETY

Australia's Engagement with Asia



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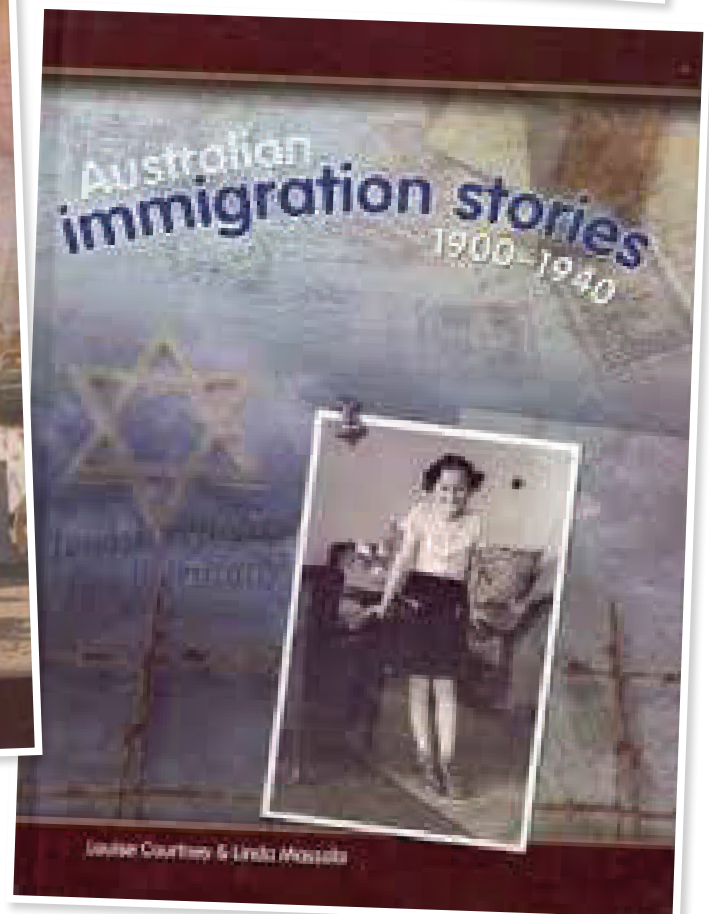
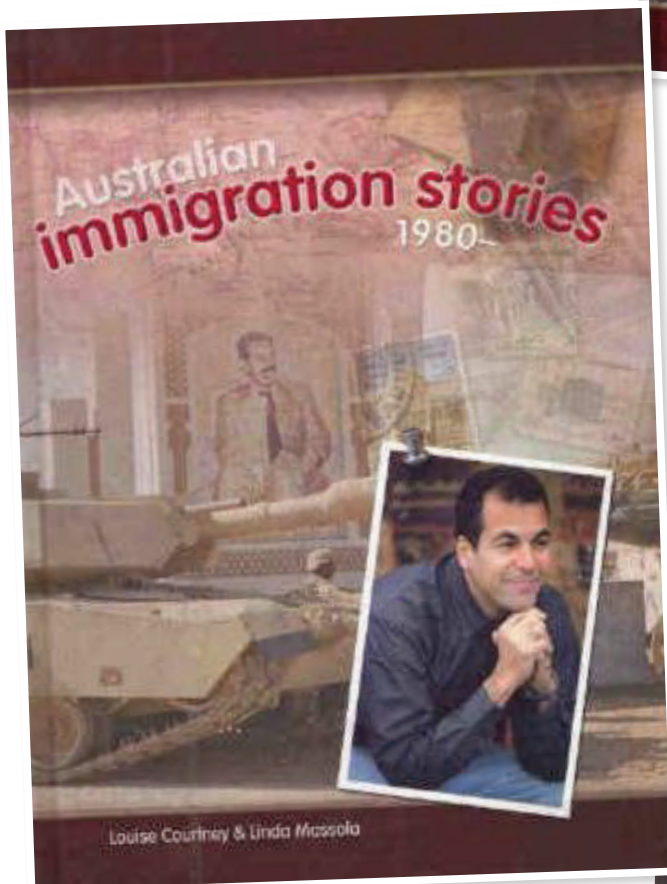
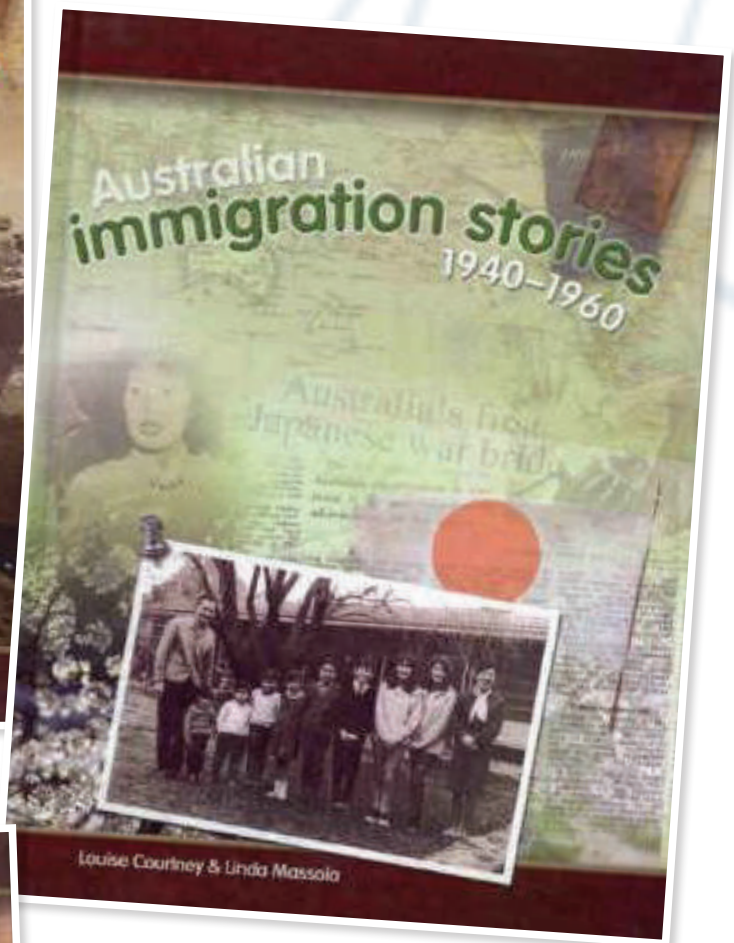
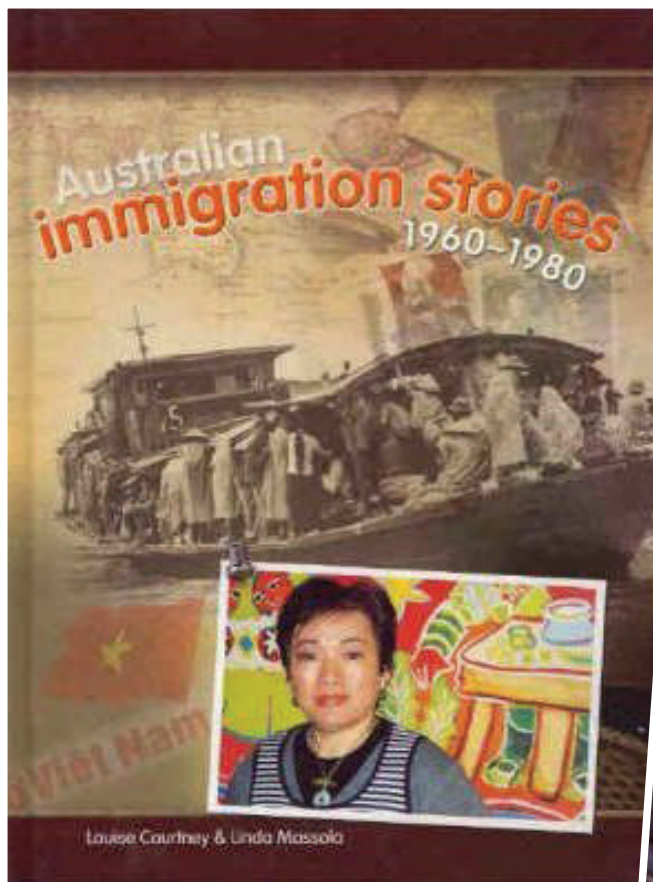
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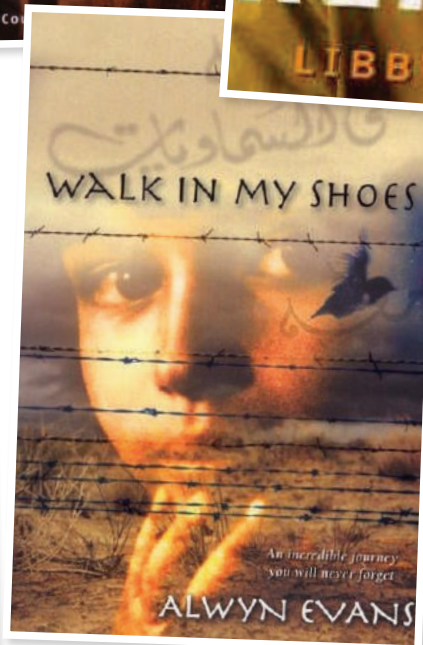
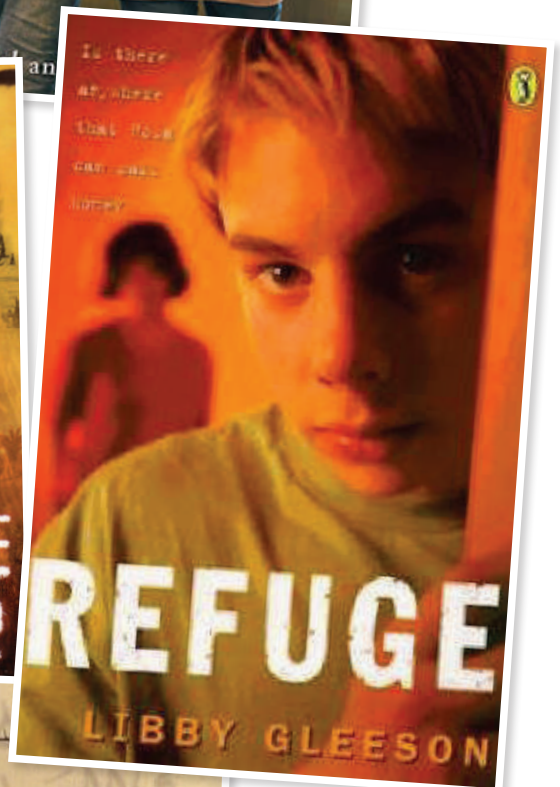
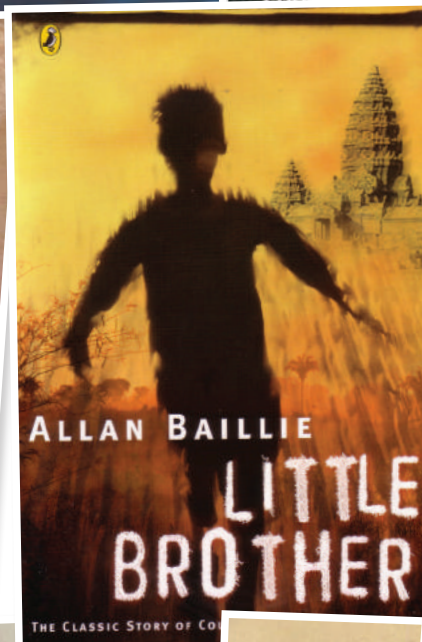
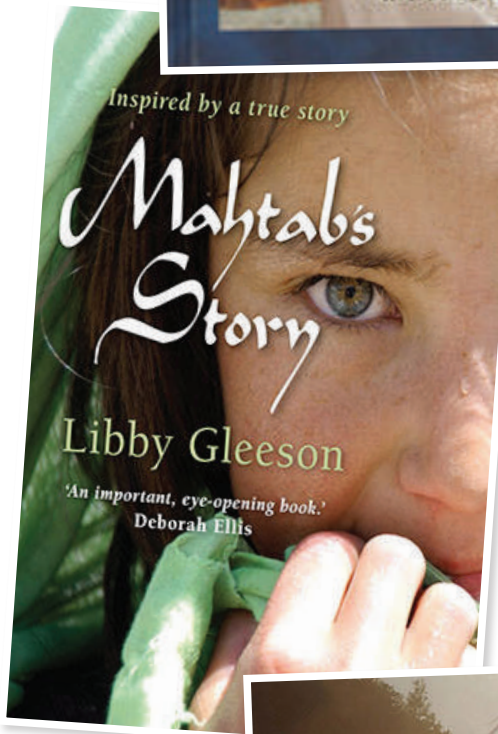
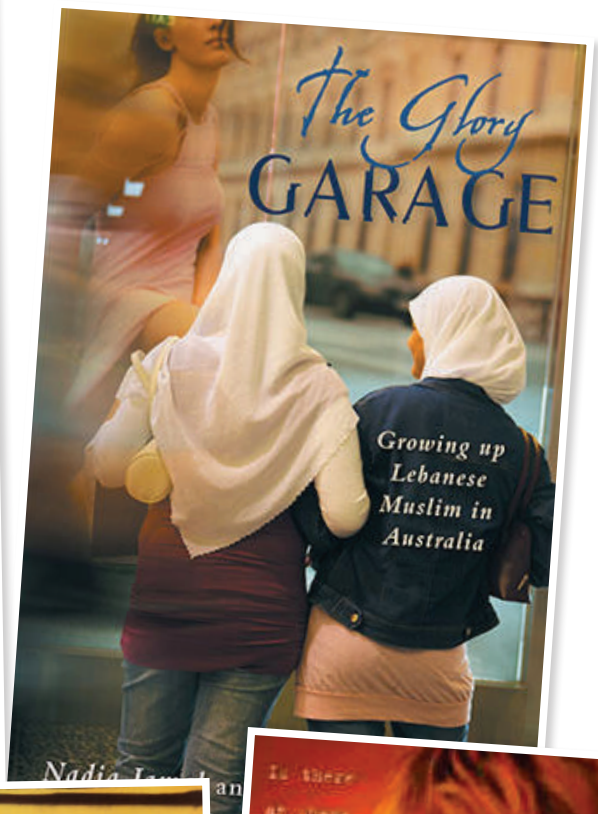
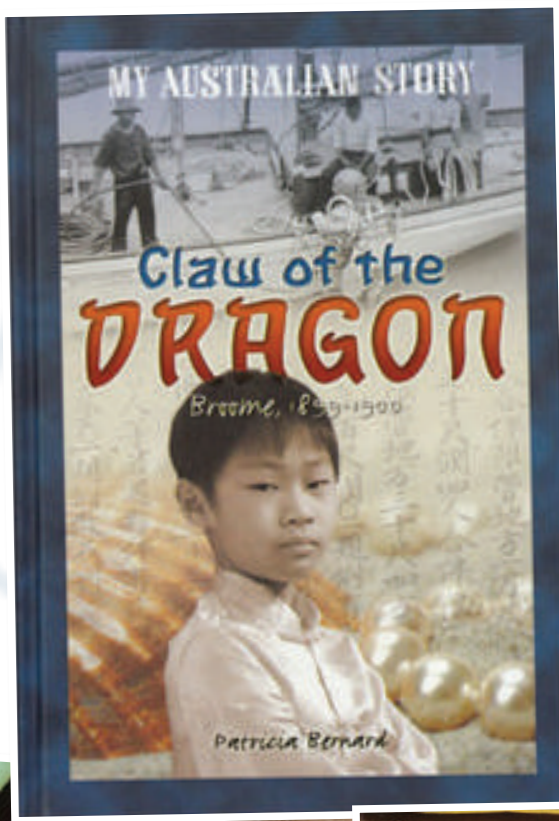
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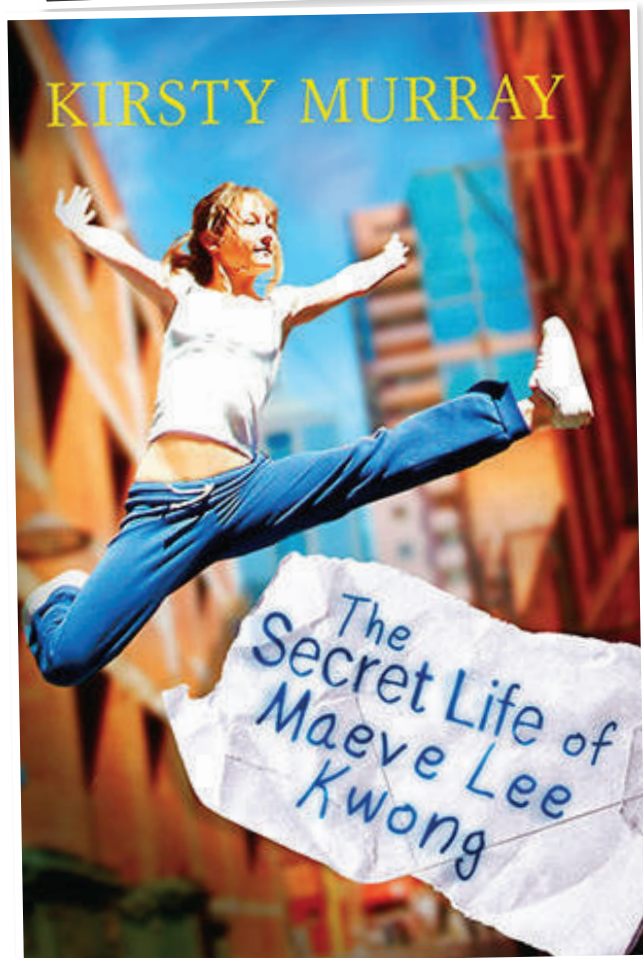
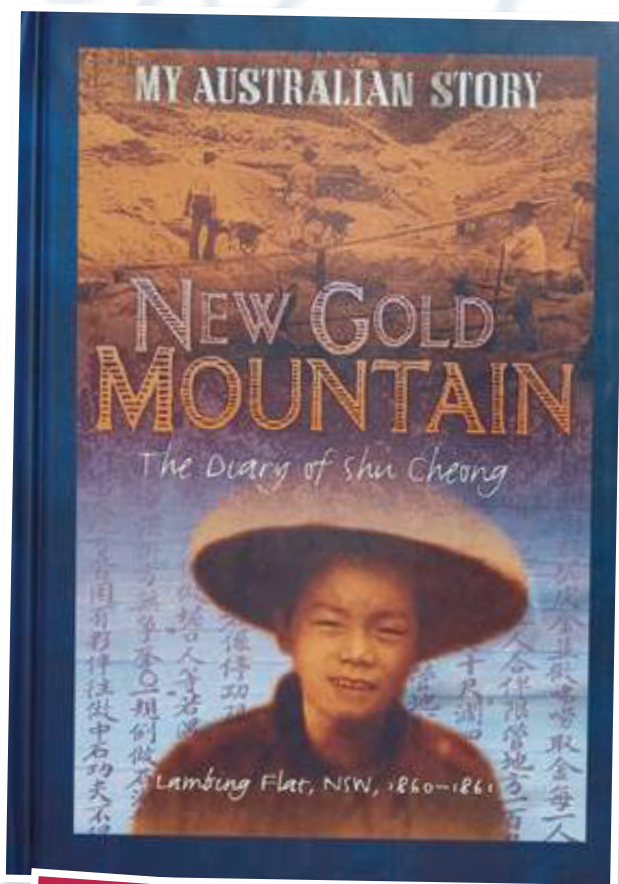
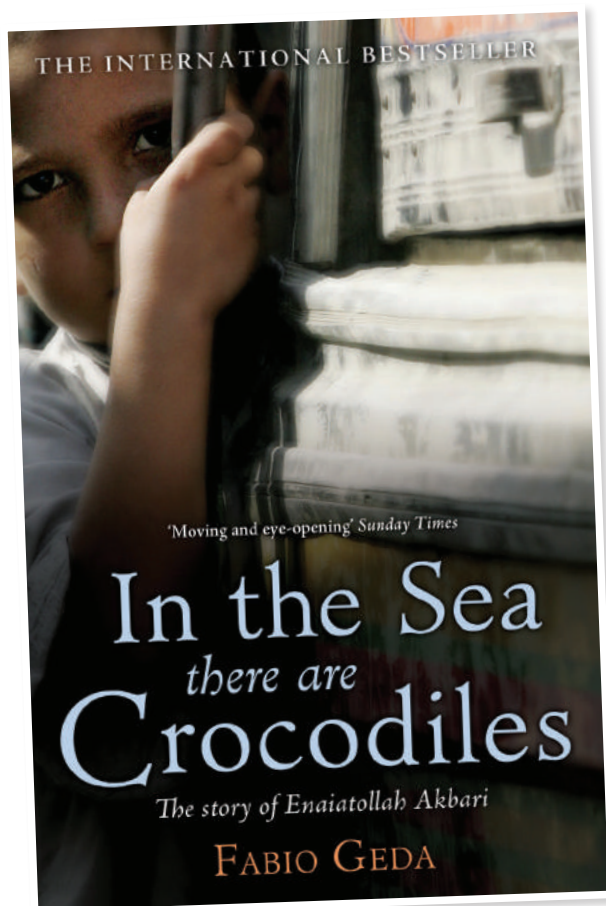


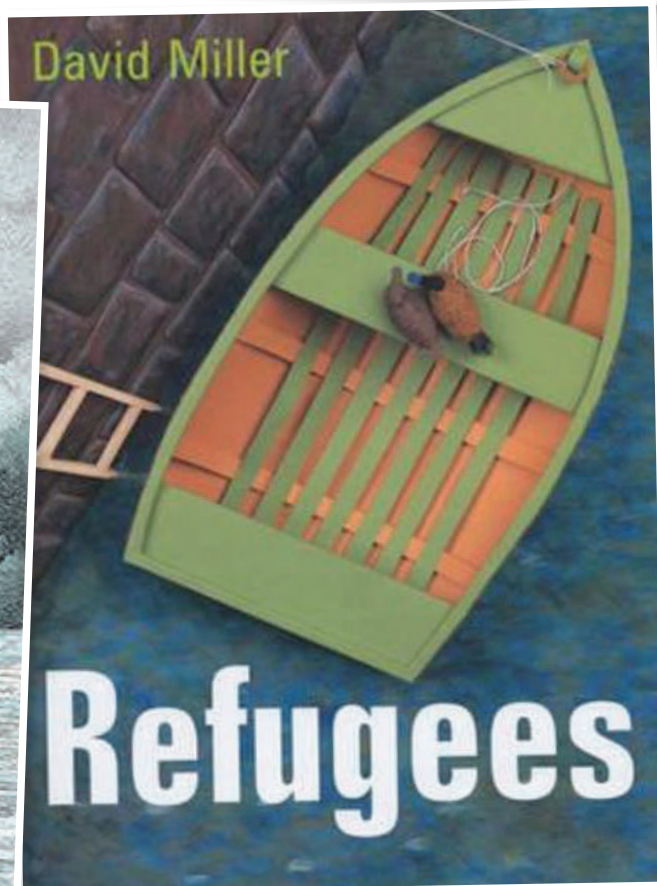
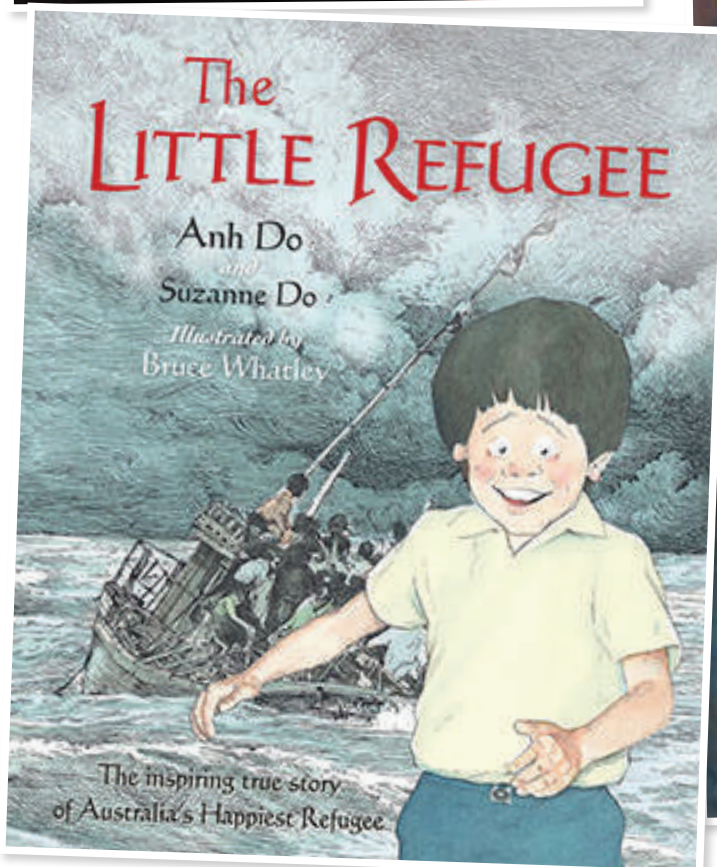
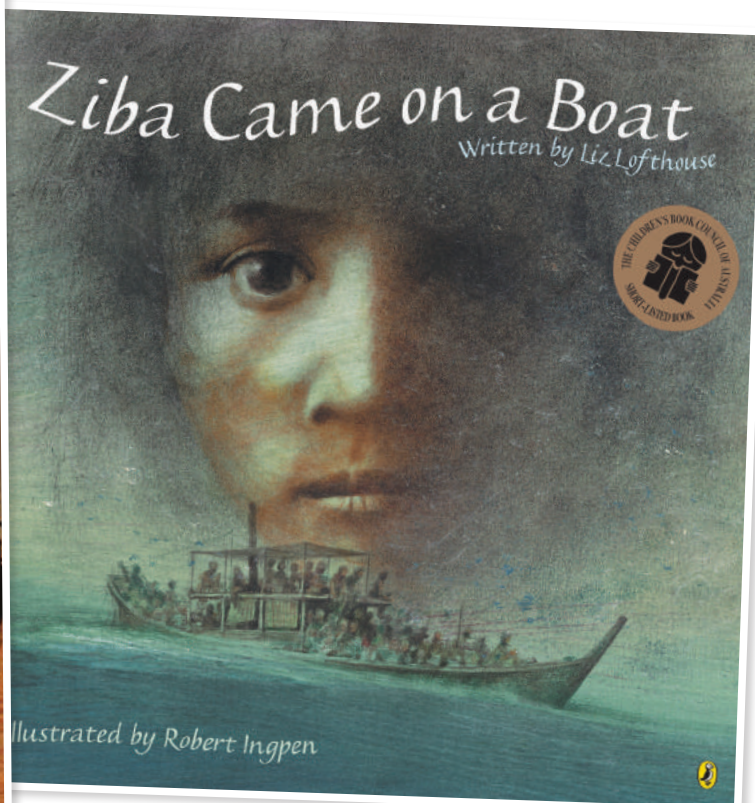
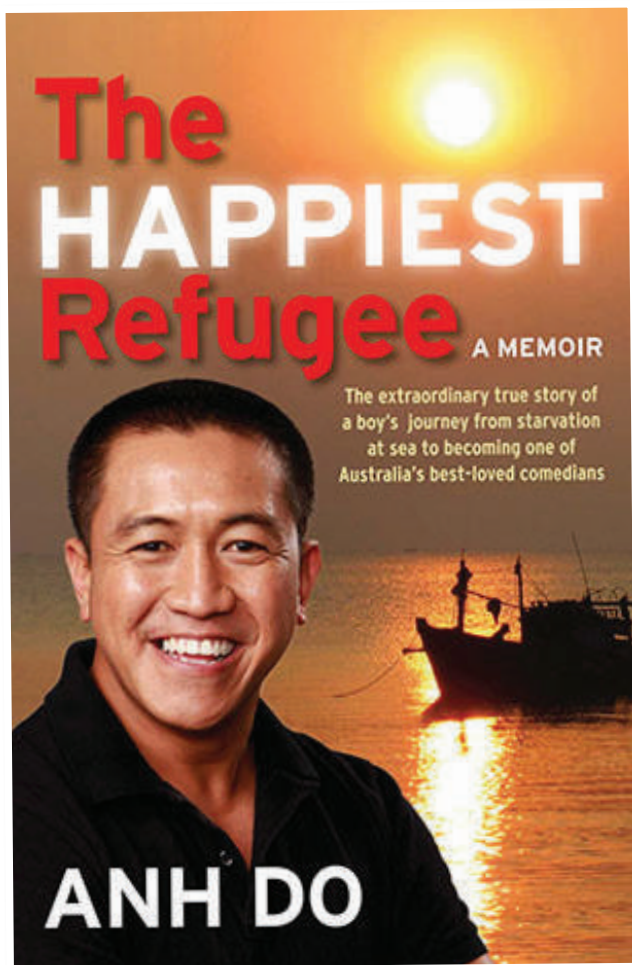
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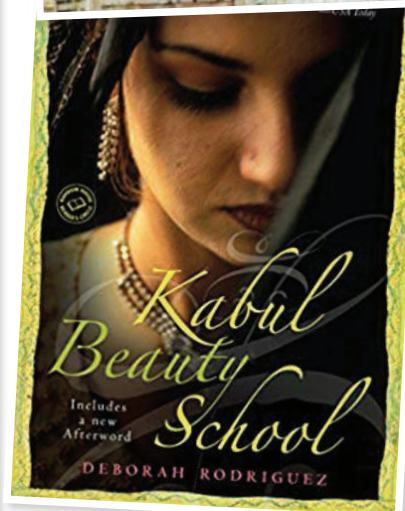
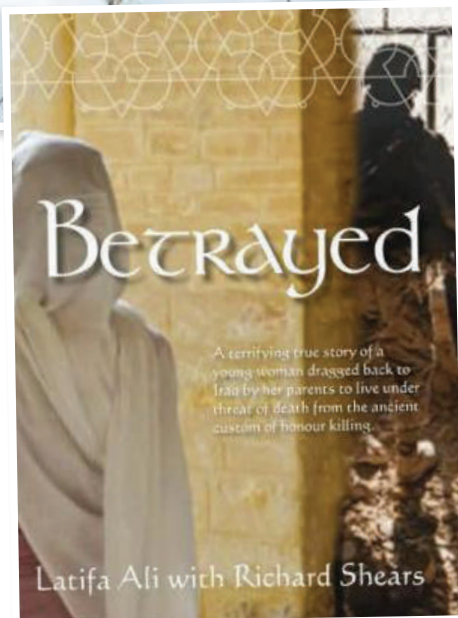
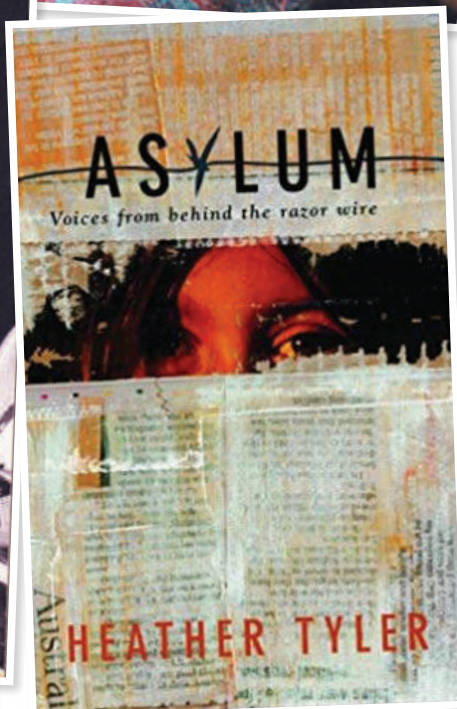
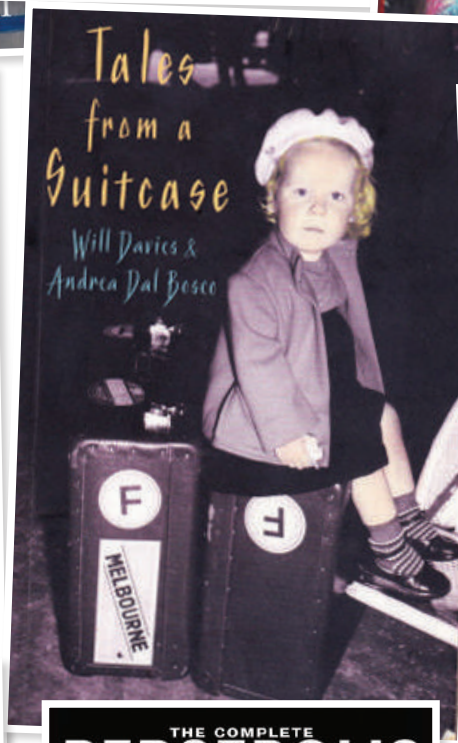
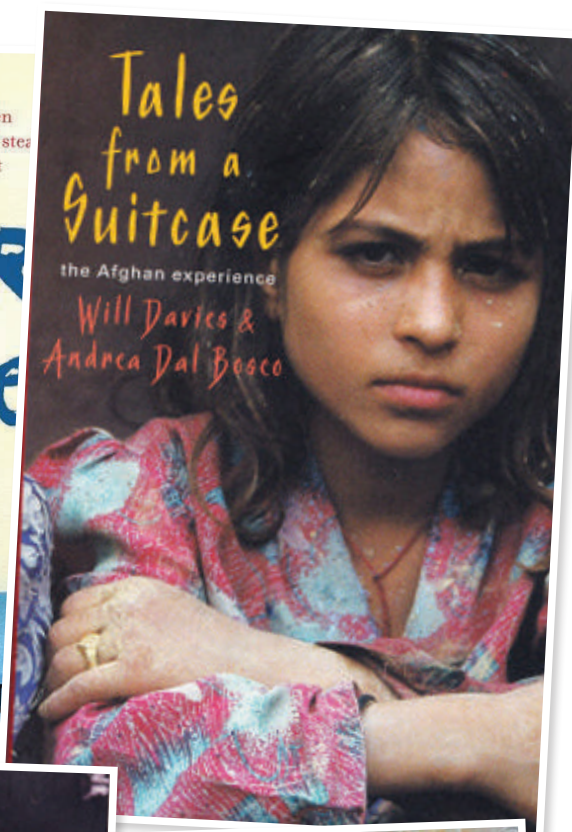
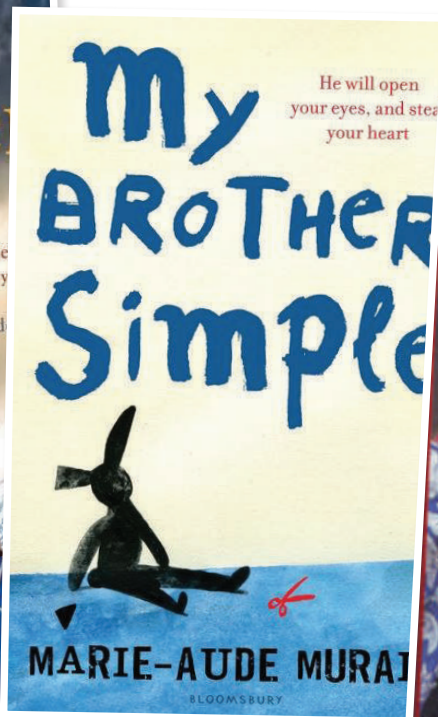
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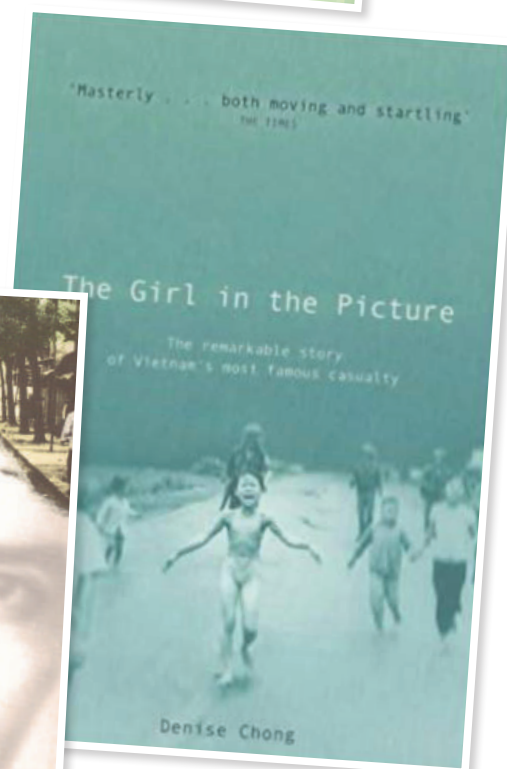
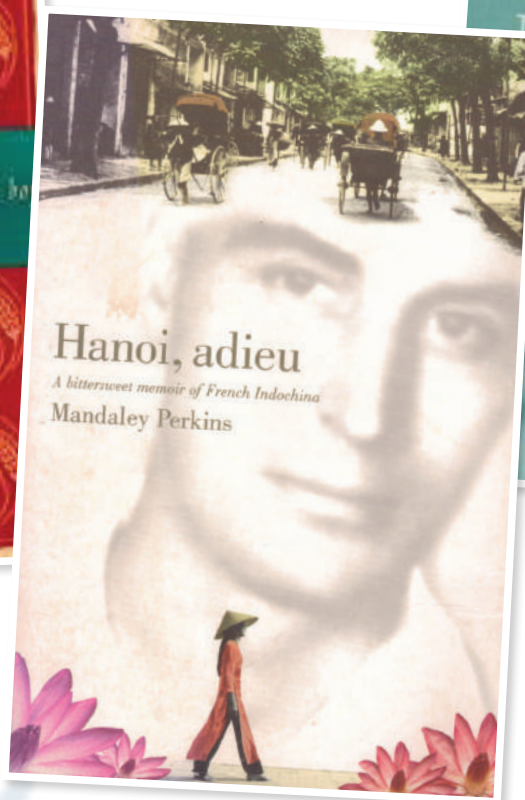
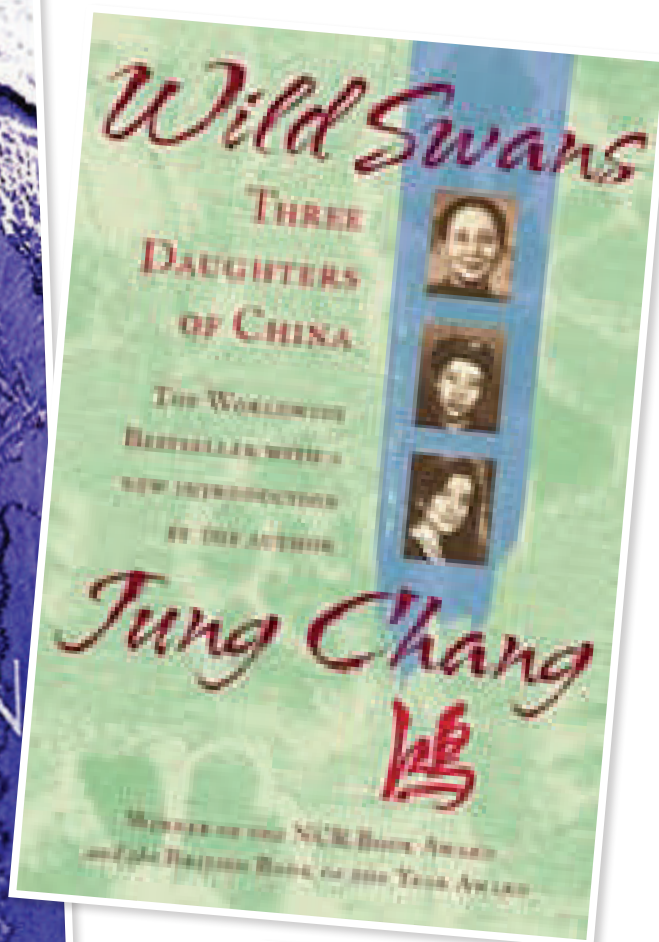
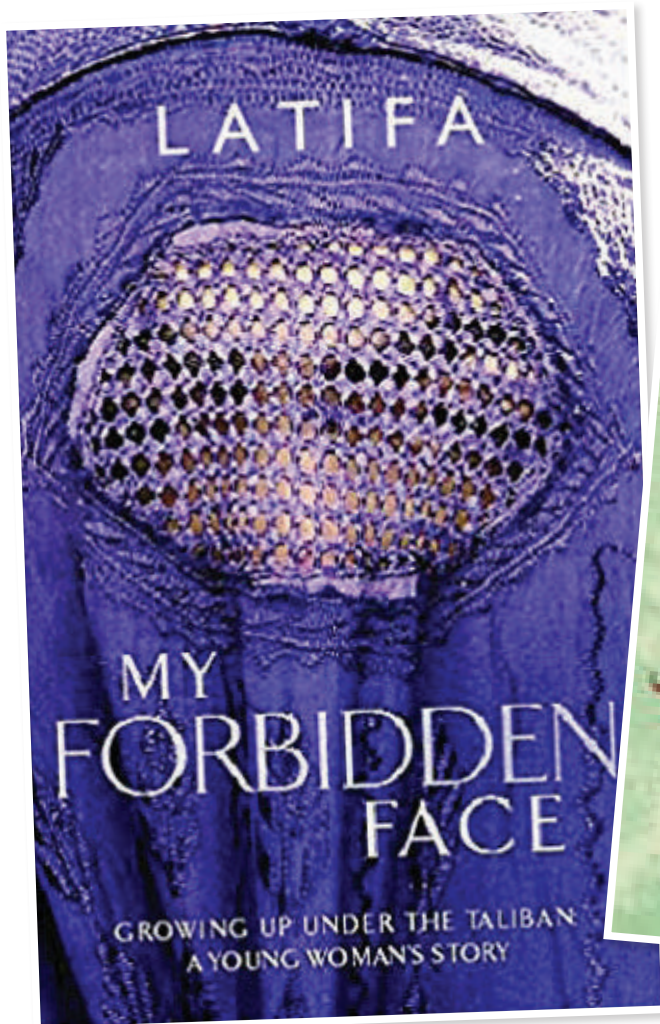


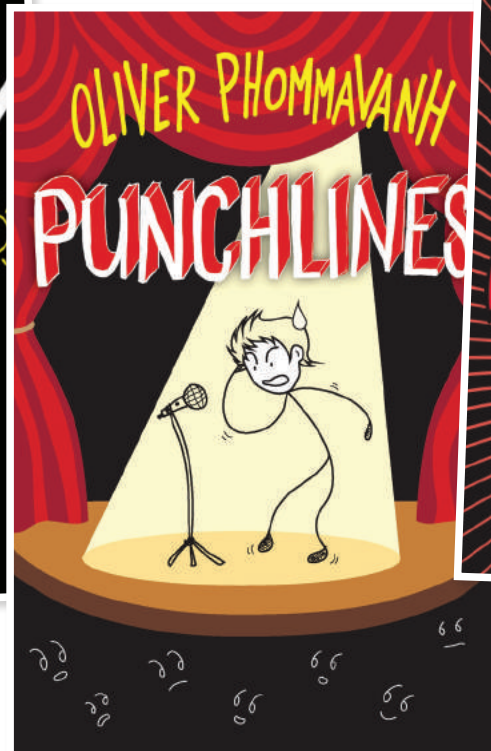
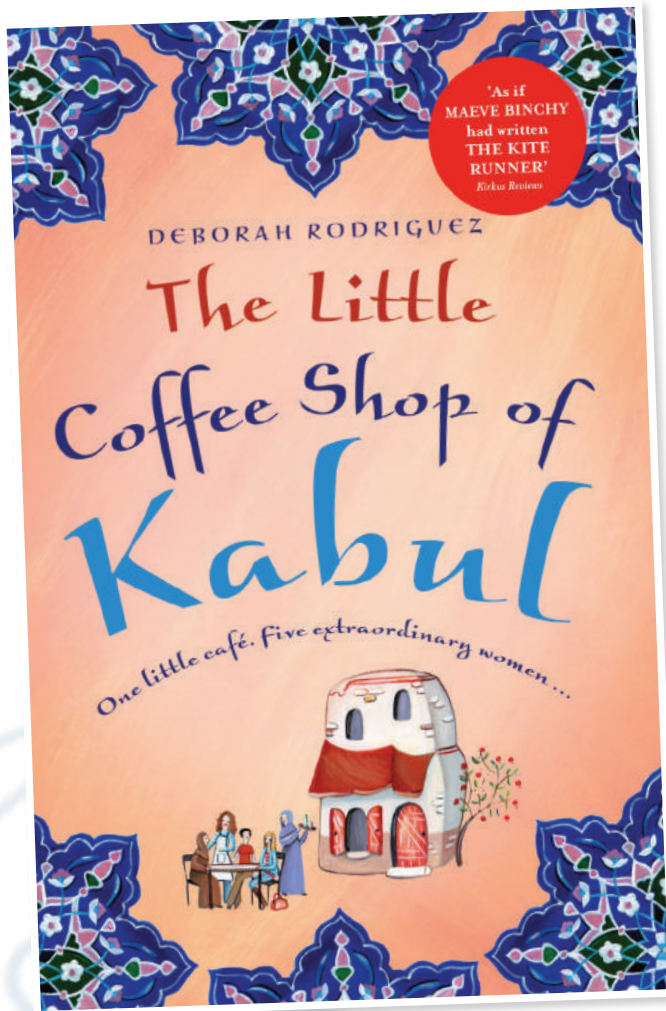


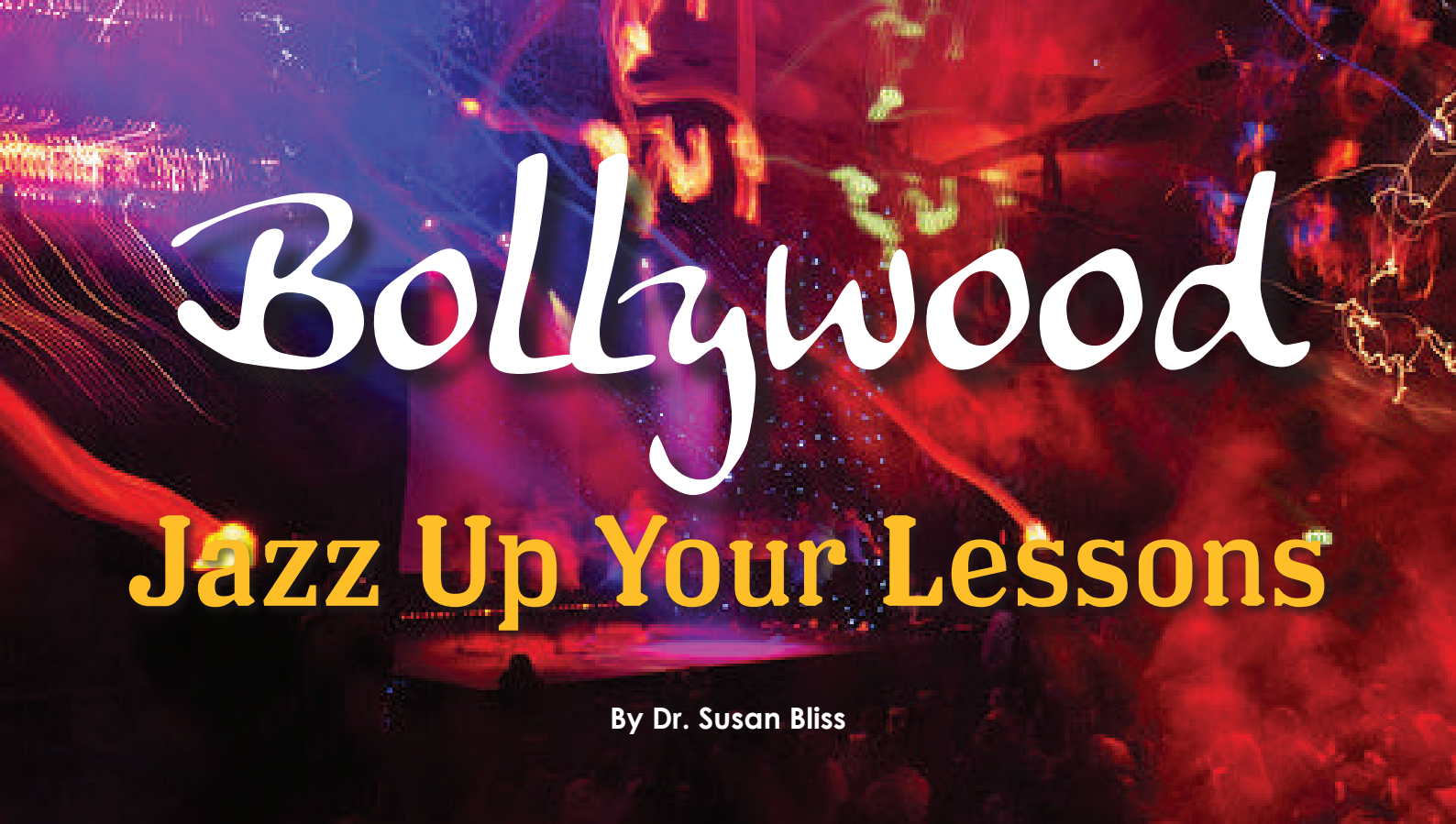












Bollywood

Jazz Up Your Lessons™

By Dr. Susan Bliss

Curriculum

KEY LEARNING AREAS

CREATIVE ARTS:

Dance, Drama, Music, Photography, Digital Media, Visual Arts and Visual Design

BUSINESS STUDIES:

Entertainment Economy
Transnational Industry

SOCIETY AND CULTURE:

Indian Film Industry's Cultures
Bollywood Culture
Historical Influences

LANGUAGES:

Hindi

ENGLISH/LITERACY:

Written and Verbal Stories/Scripts
Visual literacy, Drama, Media

RELIGION:

Diversity of Religions in Indian Film Industry

GENERAL CAPABILITIES

WORK AND ENTERPRISE:

Employment, Local-Global businesses

DIVERSITY AND DIFFERENCE:

Bollywood versus Hollywood

INTERCULTURAL UNDERSTANDING:

Diverse Ethnic Backgrounds, Traditions, Cultures, Belief System, and Religions

CRITICAL AND CREATIVE THINKING:

Creative, Innovative, Enterprising and Adaptable Skills

PERSONAL AND SOCIAL CAPABILITY:

Develop Social Awareness, Understand Others, and Develop Empathy for Others

Shah Rukh Khan in Sydney, Oct. 7, 2013. Photographer: Don Arnold/Wire Image/Getty Images

<https://www.bloomberg.com/news/articles/2017-03-02/amazon-creates-bollywood-movie-channel-for-prime-subscribers>

Background: https://underskog.no/bilde/736264_bollywood-lights

OVERVIEW

“For us, there’s God, then film stars, then cricketers.”

Indu Mehrani <https://jilllibrary.wordpress.com/bollywood-and-libraries/brief-history-of-bollywood/>

The **film industry** comprises the technological and commercial institutions of filmmaking, i.e., film production companies, film studios, cinematography, animation, film production, screenwriting, pre-production, post production, film festivals, distribution; and actors, film directors, and other film crew personnel.

https://en.wikipedia.org/wiki/Film_industry

Bollywood is one of the largest film industries in the world in terms of the number of people employed, box office sales and films produced. Its movies are an important art form, a source of popular entertainment, and a powerful medium for educating and indoctrinating citizens. Bollywood encompasses lavish spectacles to minimalist poetry, as well as exposes controversial issues encompassing gender, politics and poverty.

<http://hlc-cultercritic.com/filmonomics-bollywood/>

Rao in ‘**I Need an Indian Touch**’: states that Bollywood films require an ‘Indian touch’ in a globalised world. He advocates that Bollywood films must retain its ‘**Indianness**’, referring to its cultural identity and values.

https://www.researchgate.net/publication/240542863_I_Need_an_Indian_Touch_Glocalization_and_Bollywood_Films

The **Indian film industry** is segmented by **language**. The Hindi language film industry known as **Bollywood**, is the largest sector, representing 43% of box office revenue. The South Indian film industry encompasses five film cultures: Telugu, Tamil, Kannada, Malayalam and Tulu. Combined Tamil and Telugu film industries revenues represent 36%.

https://en.wikipedia.org/wiki/Cinema_of_India

The Indian film sector has lagged behind Hollywood in implementing emerging **technologies** such as virtual reality, augmented reality and drone shootings. If the industry aims to be at the forefront of global trends, it is imperative it engages with modern technological innovations.

<https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-indywood-film-festival-noexp.pdf>

Background: <http://www.dancewithme.in/dance-with-me-india-aishwarya-rai-bachchan-videos/>

INDIAN FILM INDUSTRY

*People say that movies are a reflection of the society?! Are they really?
Or are they an exaggeration of the existing system or maybe they are trying
to teach us something?*

<https://www.indiatoday.in/education-today/featureophilia/story/bollywood-movies-and-education-281501-2015-07-09>

The **Indian Film Industry** known as **Indywood**, is the world's largest film industry in terms of annual films produced. Other countries with large film industries include Nigeria (Nollywood), USA (Hollywood) and China (Chinawood).

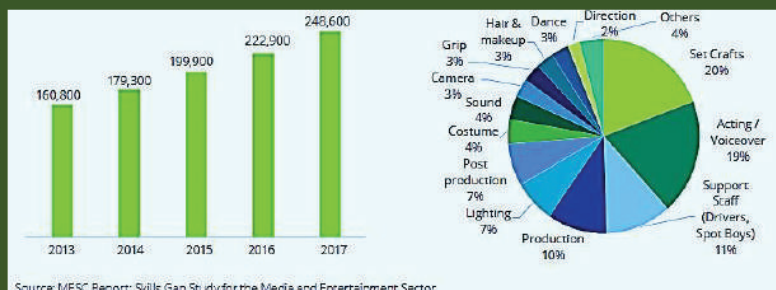
In 2017 Indywood's annual output was 1,986 films with a global record of over 3.5 billion at the box office-900,000 more than Hollywood.

The industry is expected to grow at 11.5% per year and reach US\$3.7 billion by 2020. This will create more jobs, aimed to reduce the 31 million unemployed Indians.

Future growth in the Indian Film Industry will be attributed to the following factors:

- rising population (1.3 billion);
- growing GDP per capita;
- expanding middle class;
- spreading multiplex developments;
- flourishing international markets;
- connecting global enterprises;
- emerging new sources of revenue;
- implementing visual effects (VFX) and new technologies

However, the Indian film industry is constrained by rising production costs, piracy, and strict censorship regulations.



Source: MESC Report: Skills Gap Study for the Media and Entertainment Sector

Graphs: Employment in the Indian film industry 2013-17 (left). Demand for skill in Indian film industry (right)
<https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-indywood-film-festival-noexp.pdf>

Photograph: <https://www.worldphoto.org/sony-world-photography-awards/winners-galleries/2016/national-awards/india#&gid=1&pid=3>

CULTURAL AND RELIGIOUS IDENTITIES IN INDIAN MOVIES

Indian films cannot be reduced to a single, **homogenous style** but to a **composite complex art form**. Films exhibit deep roots in indigenous culture and religions, mythological epics, traditional folk theatre and older styles of oral and theoretical performances. Now recently combined with colonialism and globalisation (especially westernisation), movies are a fusion of music, dance, drama, speech and performances-traditional and modern.

Source: https://en.wikipedia.org/wiki/Theatre_of_India

RELIGION

Films are made about different issues to create public awareness. However, one issue that has been consistent in Indian Cinema, is 'religion'. Even though, the majority of Indians follow the Hindu religion, Indian cinema does not only focus on Hinduism but on several religions. Films are made on Islam, Sikhism, Christianity, Parsi (Zoroastrian), and Buddhism. As a result films are moulded with different religious perspectives concerning issues such as conflict, rituals, integration and intimacy.

<https://marginalie.hypotheses.org/354>

- *Tathagatha Buddha* (2007) based on the life of Buddha;
- *Jodhaa Akbar* (2008) love story of a Hindu Rajput princess and a Muslim Mughal;
- *My name in Khan* (2010) story of an Indian Muslim man who wants to reach the president and convey to him that he is Muslim but not a terrorist;
- *Veer Zara* (2004) and *Bajrangi Bhaijaan* (2015) dealt with Islam and Hinduism in two countries, India and Pakistan, which share complex and hostile relations

https://marginalie.hypotheses.org/354#footnote_0_354

Bollywood, referred to as the **Hindi-language film industry**, generally imparts stories from Hindu texts with reference to Hindu deities. For example the film *Krrish* (2006), follows a superhuman character with powers possessed by the Hindu deity, Krishna.

Numerous movies show Lord Krishna being worshipped, playful, flirtatious, mischievous and loving.

Several Hindu directors producing Bollywood movies:

- Include a popular chant or song celebrating a deity with choreographed dances based on the yoga poses of Hindu deities.
- Release movies and music videos at ***Diwali** or an auspicious day called the ***Muhurat**.

***Diwali** or the Festival of Lights is India's biggest and most important holiday). ***Muhurt** is the most auspicious moment for a Vedic-Hindu Wedding ceremony.



Lord Rama

<https://www.pinterest.com.au/pin/169799848425493187/>



Krrish <http://abith.weebly.com/hinduism-and-bollywood.html>

CULTURAL AND WESTERN INFLUENCES IN INDIAN MOVIES

ANCIENT INDIAN EPIC POETRY

The Ramayana and the Mahabharata, were originally composed in Sanskrit, and later translated into other Indian languages. Tales of passion, power, virtue, and deception, the Ramayana and the Mahabharata have been adapted for film and TV and in 2018, revised for the big screen. The movie is expected to become India's most expensive.

ANCIENT SANSKRIT DRAMA

Emphasised colourful and spectacular performances. It addressed acting, dance, music, drama, architecture, costumes, make-up and props.

TRADITIONAL FOLK THEATRE

Dates back to around the 10th century.

PARSI THEATRE

Blended realism, fantasy, music, dance, narrative, earthy dialogue and stage presentation, into a dramatic melodrama. The plays contained crude humour, sensationalism and dazzling stagecraft https://en.wikipedia.org/wiki/Parsi_theatre

WESTERN INFLUENCE

• HOLLYWOOD

Integration of Hollywood musicals which were popular from the 1920s to 1950s

• WESTERN MUSICAL TELEVISION

Influence of MTV, which changed camera angles, dance sequences and music in Indian films.

MTV introduced in India in 1994 went off air in 1995, because the US and India have different norms on dress, dance and behaviour. MTV India introduced Hindi music, and only showed Western music during off-peak hours. However today, Indian pop music and videos demonstrate more sexually explicit figures using camera angles.

<https://laurenmcjacobson.wordpress.com/portfolio/mtvs-influence-in-india/>

Bollywood has entered the consciousness of Western audiences and producers, with Western actors seeking roles in Bollywood movies.



Ramayana

<http://in.ign.com/india/83477/feature/3-indian-epics-that-should-be-made-into-video-games>



Performer playing Sugriva in the Koodiyattam form of Sanskrit theatre

<https://www.pinterest.com.au/pin/181340322467722290/?lp=true>

You Tube

Ramayana The Epic - English Movie - <http://www.firstpost.com/entertainment/after-1000-cr-mahabharata-ramayana-to-be-adapted-for-big-screen-with-rs-500-cr-budget-3434740.html>
<https://www.youtube.com/watch?v=MzUEg7jExj0>

WORLD OF BOLLYWOOD

Bollywood is the largest film producer in India, but only represents 43% of Indian revenue. Representing the **Hindi-language film industry**, Bollywood movies tend to use a dialect of Hindi-Urdu, or Hindustani, however many modern Bollywood films now incorporate Hinglish. . In 2016 Bollywood produced 364 Hindi films and grossed over US\$2.4 billion. Its movies are referred to as glamorous, grand and explosively colourful, with a tendency for repetitive plots, lots of music and dancing, and highly unrealistic happy endings.

Story themes tend to focus around melodramatic lovers, love triangles, indignant parents, lost relatives, corrupt politicians, villains, fortunes lost and found, and twists of fate. These themes are woven into spectacular song-and-dance routines called **Masala films**, filled with fantasy, mythology and emotion.

EMOTIONAL FILMS

The main element in the movies is **emotion**, with the goal of extracting an emotion from the audience, through songs, scripts, fantasy and beauty.

The movies centred on famous **film stars** creates an emotional connection with the audience. Few top actors move from the emotional masala movies for fear they'll lose their fan base. In most cases, star power accounts for a film's success. Biggest screen stars are the Three Khans (Shah Rukh Khan, Aamir Khan and Salman Khan), who perform in the top ten highest-grossing Bollywood films.

MASALA FILMS

Masala films are compared to the mixture of spices used in Indian cooking. Every conceivable genre is thrown into the pot (screenplay) and boiled by the director. Like masala these movies are a mixture of many things such as a romance, action and comedy with heroes impressively overcoming villains.

FANTASY AND MYTHOLOGY FILMS

Referred to as fantasy or escapist cinema these movies help the audience get lost in a fantasy world and forget their problems. There is also a strong influence of God, destiny and fate, due to the influence of mythology and religion on these peoples' lives

DIFFERENCES BETWEEN HOLLYWOOD AND BOLLYWOOD

Despite the differences between Bollywood and Hollywood they have both produced thousands of movies, generated millions of dollars in revenue, and entertained billions of people.

	HOLLYWOOD	BOLLYWOOD
First Movie	Late 1800s	Early 1900s
Language	Mostly English	Mostly Hindi, but does incorporate other languages. Some have English subtitles.
Location	Los Angeles, California	Does not have a physical place. The name suggests it is based in Mumbai (Bombay), the first city Indian cinema was introduced.
Difference in Names	Hollywood: Cinema industry is located in Hollywood, Los Angeles, California	Bollywood originally inspired from 'Tollywood', a term that refers to the cinema of West Bengal. Bollywood' coined in 1970s by combining Bombay and Hollywood- 'B' taken from Bombay, while rest from Hollywood
Number of Movies	729 (2016)	364 (2017) Bollywood. 1,986 (2017) Indywood
Movie Tickets Sold	1.2 billion tickets (2016) 5,800 cinema sites in US Highest grossing film-Avatar US\$2.8 billion (2018)	3.6 billion tickets (2017) Majority of highest-grossing Indian films are Bollywood Highest grossing film-Dangal (US\$330million)
Highest Paid Stars	Mark Wahlberg US\$68million	Shah Rukh Khan US\$38 million
Length of Movies	Shorter (two hours)	Longer (three hours)-with an intermission
Recorded	On-set	Has playback recordings. Allowed directors to choose good singers to be integrated later in the film (lip-synching)
Audience Focus	Adventurous, more liberal and includes more science fiction, thrillers and original plots	Sentimental side of human nature Glamorous, musical Stronger branding based on actors
Inspiration	Mostly from novels. Characters and plot of story are mostly consistent	Traditionally inspired by stage plays Music and songs play a vital part
Technology	Early adopters of new technology (CGI, 2D, 3D) in film making. Animated movies by Walt Disney started in 1937	Quickly catching up with latest technology Animated movies with overseas co-producers e.g. Indian movie <i>Blinky Bill</i> (2015) with Screen Australia.
Script	Standard format Focuses on story and characters	Written in a format that tells the story orally Focuses on camera setting
Censorship	MPAA film rating system is more relaxed and transparent	Stricter rules to abide by the Central Board of Film Certification
Finance	Multinational entertainment companies Conglomerates Well organised and transparent	Cash from traders in real-estate, jewellery and Mumbai underworld Largely from non-organised sector with little from banking sector.
Risque Themes	Often includes risqué themes with sex and/or violent visual images specifically for young people.	Refrains from steamy scenes, often excluding kissing. Little nudity which makes them popular with family oriented audiences.

Hollywood and Bollywood have received countless international awards, acknowledging their artistic and technical excellence. For example, the Indian movie *Dangal* became a transnational blockbuster, winning international awards and grossing over \$320 million. In 2017, the Australian Academy of Cinema and Television Arts (AACTA) awarded *Dangal* the best Asian film.

Background <http://fortune.com/2017/08/18/warner-bros-universal-apple-comcast-movie-theaters/>

GLOBAL REACH AND IMPACTS OF INDIAN FILM INDUSTRY

The multi-billion Indian film industry has developed into a **global enterprise** reaching over 90 countries, with 12% of its revenue received from overseas. Indian movie exports recently grew 60% due to the large Indian diaspora and the increasing demand by non-Indian communities around the world.

Bollywood movies - are more popular than ever in Britain. 'In the 1980s, first-generation Asians used to have to drag their kids to Hindi cinemas,' says Avtar Panesar, UK head of Yash Raj Films. 'I suppose it was a way to keep them in touch with Indian culture. But now the kids are the ones bringing their parents.'

<https://www.theguardian.com/business/2006/mar/19/bollywood.india>

GLOBAL REACH

GLOBAL GROWTH	NATIONAL GROWTH	GROWING CONNECTIONS AUSTRALIA-INDIA
<p>Upsurge of Indians living overseas:</p> <ul style="list-style-type: none"> ○ NRI-PIO: Non-resident Indian and Person of Indian origin ○ DESI e.g. People living in the Indian subcontinent or South Asia, and their diaspora living in Bangladesh, India, Pakistan, Maldives, Nepal and Sri Lanka. 	<p>India's growing middle class is demanding quality entertainment, cinematography and innovative stories, as well as technical advances such as special effects and animation.</p>	<p>About 5.2% of the Australian population are Indians. For Indian-Australians, Bollywood films connect them with their roots, culture and family values. Since the 1990s projects between India and Australia include films, music videos, and TV commercials shot at Australian locations. Anupam Sharma, the Australian-Bollywood entrepreneur, has co-produced more than 200 projects between the two countries.</p>

GLOBAL IMPACTS



Background: Naga Towers in Gandhinagar, India <https://designsatire.wordpress.com/2012/08/03/naga-towers-in-gandhinagar-india/>

GROWTH OF GLOBAL FILM ENTERPRISES

India aims to double its share of the global film industry by: collaborating with **global enterprises**; engaging in **modern and creative technology**; and implementing **internal reforms**.

- **Global enterprises**
- Enticed by India's large population and high consumption, many of the world's media giants such as Walt Disney, 20th Century Fox, and Warner Bros have invested in India's vibrant film industry. Additionally, Amazon now streams Indian movies.
- **Modern and creative technology**
Prime Focus World (PFW) is the world's leading visual entertainment services group. The global enterprise has collaborated with Bollywood and India's regional film industries, to provide world-class creative services and pioneering technology services. PFW 'offers services including pre-production to final delivery. These include visual effects, creative 3D conversion, video and audio post-production, digital content management and distribution, digital intermediate, versioning and adaptation, and equipment rental.' http://indianbusiness.nic.in/newdesign/upload/news/New_Horizons_Final.pdf
- **Internal reforms**
- India's recent **incentives** and **reforms** have made India more attractive for global enterprises to invest in the film industry and utilise the country as a film site. For example:
 - Incentives: cash and tax credits; interest free loans; easier processing of visas; and discounts on travel and accommodation.
 - Reform: 100% Foreign Direct Investment aimed to increase overseas investment in India and stimulate growth in the film industry.

However companies operating in India are exposed to local competition, piracy and corruption.

GROWTH OF GLOBAL FILM TOURISM

FILMS INFLUENCE PEOPLES' TRAVEL DECISIONS AS THEY INSPIRE THEM TO EXPERIENCE SCREENED PLACES FIRST HAND

*According to the **Tourism Competitive Intelligence**, more than 40 million international tourists per year choose their destination because they saw a film shot in that country.*

*Tourism, inspired by movies is leading to countries vying for **local production of films**.*

*Fuelled by the growth and reach of the media and entertainment sector and increase in international travel, film tourism is expected to be a **growing phenomenon worldwide**.*

<https://skift.com/2013/12/02/the-ascendance-of-movies-and-tv-in-tourism-marketing/>

Indian cinematic tourism also known as 'film-induced tourism' is one of the fastest growing sectors in the country. The industry has played a key role in promoting India's cultural and religious diversity, traditional and modern landscapes, architecture and World Heritage sites (e.g. Taj Mahal). Many people trekked to Shimla after watching *Ye Zawani hai Diwani* (2013), and stayed at Coorg an eco-tourist destination after viewing *Raavan* (2010). *Slumdog Millionaire*, *Life of Pi*, *Best Exotic Marigold Hotel* and *Mission Impossible IV* gained global attention for India, as a film shooting attraction as well as a tourist location.

The India government aims to expose India via films to generate income, investments and employment. In 2012, a

Indywood Film Tourism

*Wake up to the morning beats of *Slumdog Millionaire*, walk the medieval streets adjoining *The Best Exotic Marigold Hotel* or shop through the many bazaars where James Bond once made an appearance. India to a visitor is colourful, energetic and full of life. Just as seen through the many movies and stories that has the country at its core. At **Indywood Film Tourism**, we welcome you to experience the beauty of India, as witnessed on the big screen.*
<http://indywoodfilmtourism.com/>

Memorandum of Understanding between the Ministry of Tourism and the Ministry of Information and Broadcasting promoted Indian cinema under the 'Incredible India' campaign globally. <http://incredibleindia.org/>

FOLLOWING HOLLYWOOD SUPER HERO FRANCHISE

Following the successful Harry Potter franchise that grossed more than US\$12 billion, **RA. One** was the first Indian movie to utilise merchandise and games to facilitate the creation of a franchise.

RA.One is a superhero film, starring Shah Rukh Khan (SRK) - the 'King of Bollywood'. The film was released at the beginning of *Diwali* in 2D, 3D and dubbed versions.

Merchandise used to promote the movie had figures leap out of McDonald's happy meals, as well as the production of graphic novels, action figures, clothing apparel, watches and mobile phones. Telecast rights of the film's music was sold to Star One and UTV Indiagames designed a social game titled Ra. One Genesis. A 4-D multi-sensory virtual theatre ride is available at Bollywood Park in Dubai. The film won the National Film Award and the Filmfare Award for Best Special Effects. In 2011 it became the third highest-grossing Bollywood film domestically and worldwide. Despite the film's success and critics praising the visuals and music, it faced controversies involving plagiarism and copyright.



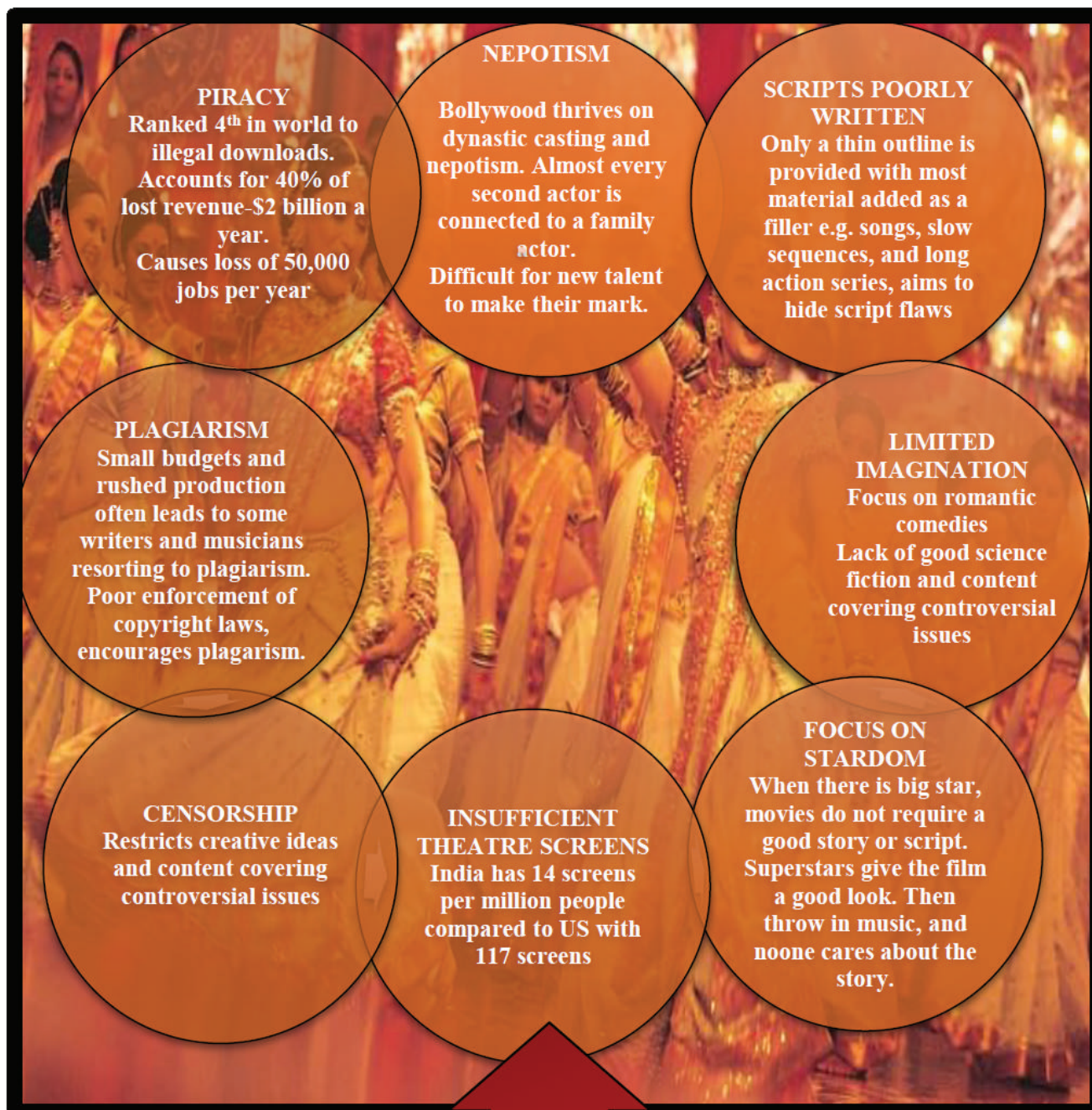
Diagram: RA. One Franchise http://indiainbusiness.nic.in/newdesign/upload/news/New_Horizons_Final.pdf

Poster: <https://www.pinterest.com.au/pin/336292297149560726/>

<https://en.wikipedia.org/wiki/Ra.One>

<https://www.indiatoday.in/magazine/leisure/story/20111031-shah-rukh-khan-ra.one-franchise-marketing-749374-2011-10-21>

PROBLEMS OF INDIAN FILM INDUSTRY AND RECOMMENDED CHANGES



RECOMMENDED CHANGES

- Greater government support of the film industry
- Develop additional screens
- Digitisation to help curb piracy
- Crowdfunding to finance new movie projects
- Implement strong and enforceable piracy laws
- Regulate plagiarism
- Promote film tourism: Creates employment (multiplier effect) and an inflow of foreign currency

CONTROVERSIAL ISSUE FILM CENSORSHIP

The Indian Censorship Board banned films entailing sexual scenes, anti-religious stories, gender taboos and political conspiracies. The conservative Board, banned the *Bandit Queen* (1994) for its sexual content and offensive language, the *Pink Mirror's* (2003) trans-sexuality content, and *Unfreedom* (2015) a lesbian love story entwined with an Islamic terrorism, bringing together two 'taboos'. Other films like *Gandu* (2010), *Inshallah-Football* (2010) and *Dazed in Doon* (2010) were banned for nudity, sex scenes and religious issues.

<http://womenpla.net/banned-why-10-hindi-movies-that-are-banned-by-the-censor-board/>
 Indian Film Censorship Board: https://en.wikipedia.org/wiki/Central_Board_of_Film_Certification
 List of films banned in India: https://en.wikipedia.org/wiki/List_of_films_banned_in_India



FIRE (1996)

This movie showcased the story of two Hindu sisters-in-laws and their lesbian relations. The movie was highly acclaimed in film festivals, but was not accepted in India, setting off protests around issues such as homosexuality and freedom of speech. The director and the lead actresses received life threats and the film was finally banned by the Censorship Board. The film was later released uncut.

Image Source: www.starmusiq.com

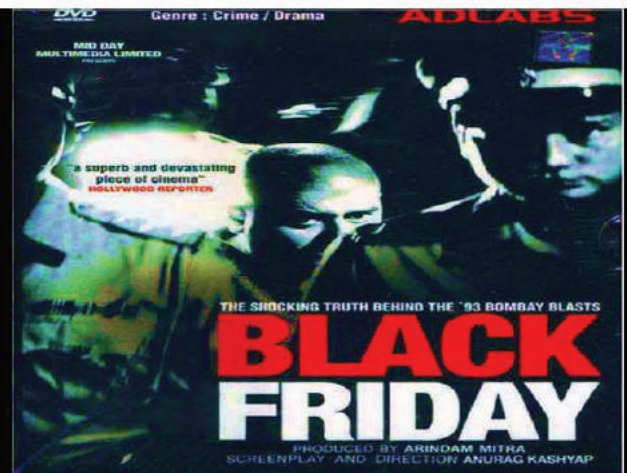


FIRAAQ (2008)

The 2002 Gujarat Riots, saw the outbreak of communal violence that killed more than 900 Muslims and 300 Hindus. The film covers the effects of the riots on the lives of ordinary people, said to include 'a thousand true stories.'

The Hindi political thriller, won awards but initially faced criticism for wounding Hindus and Muslims feelings, resulting in the film being vetoed.

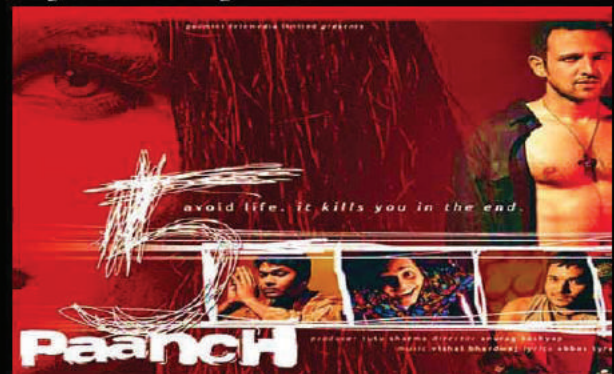
Image <https://en.wikipedia.org/wiki/Firaaq#/media/File:Firaaq.jpg>



BLACK FRIDAY (2004)

Black Friday is an Indian crime drama based on the "1993 Bombay Bombings". The film received positive reviews from Indian critics and was widely considered to be director Anurag Kashyap's masterpiece. The Bombay high court issued a "stay order" as the issue was pending for verdict and the Censorship Board banned it mainly because the film was considered dark for the audience. The movie was finally released in 2007.

Image Source: www.tvguide.com



PAANCH (2003)

A movie based on the serial murders that haunted Maharashtra around 1976. The Central Board of Film Certification objected to the film's violence, depiction of drug abuse and bad language. After some cuts, the film was cleared in 2001, and released at film festivals.

Image Source: madaboutmoviez.com

CONTROVERSIAL ISSUE RELIGION

Religion is an essential aspect of the Bollywood narrative as the characters, locations, plot, dialogues, social norms, weddings, rituals, social institutions of marriage, education, etc. represent religious codes and themes, on which the film is generally based. (Barton, 2010).

<https://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1361&context=jrf>

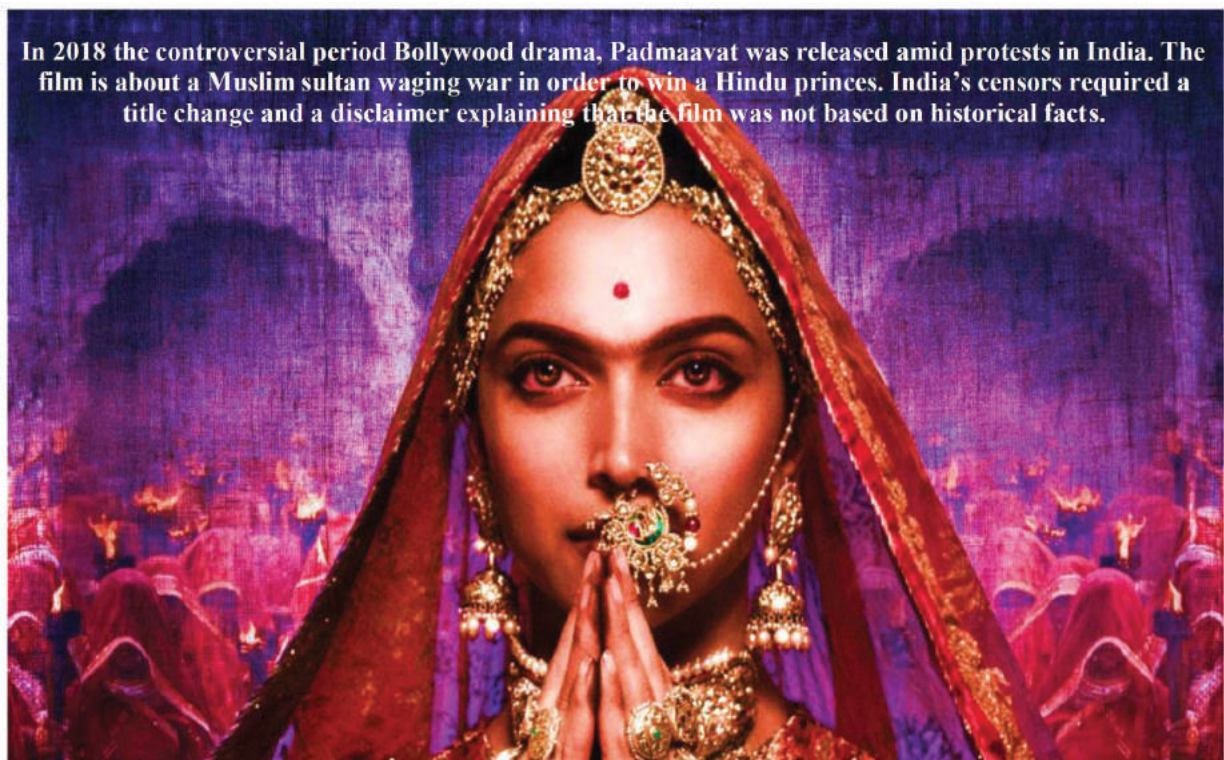
Religion forms a very sensitive issue in India as there is a low threshold for 'religious sensibilities being hurt' and 'intolerance' as has been witnessed in the form of communal hostilities leading to the deaths of hundreds of thousands of people. Consequently, media portrayals about religion and religious identities are often cautiously dealt with in the news, advertisements and cinema.

India has had a history of outrageous responses against 'controversial' cinematic projections of religion, such as **PK** released in 2014.

<https://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1361&context=jrf>

PK, is an alien who comes to our planet on a research mission. He lands in India and is stunned by the religious practices and superstitions that exist in society. While the movie was the highest grossing film of the time, it met with heavy criticism by members of the Vishwa Hindu Parishad and Bajrang Dal, as they felt the movie hurt religious sentiments.

<https://in.bookmyshow.com/entertainment/bollywood-movies-on-religion/91863>



In 2018 the controversial period Bollywood drama, Padmaavat was released amid protests in India. The film is about a Muslim sultan waging war in order to win a Hindu prince. India's censors required a title change and a disclaimer explaining that the film was not based on historical facts.

While religion and faith began as a **personal connection** to a **divine power**, it has increasingly become commercial in modern times.

Some 'religious' practices curb **basic human rights** that leads to **discrimination**-gender, caste and colour. This is a vital social issue that **Bollywood** has tried to address in various movies. Some of these films have also been banned by religious nationalists, fundamentalists, or protests have been held against their releases.

<https://in.bookmyshow.com/entertainment/bollywood-movies-on-religion/91863>

The following films focus on controversial issues surrounding religion: OMG – Oh My God! (2012), My Name is Khan (2010) Mr. and Mrs. Iyer (2002), Earth (1998), Water (2005) and Dharam Sankat Mein (2015)

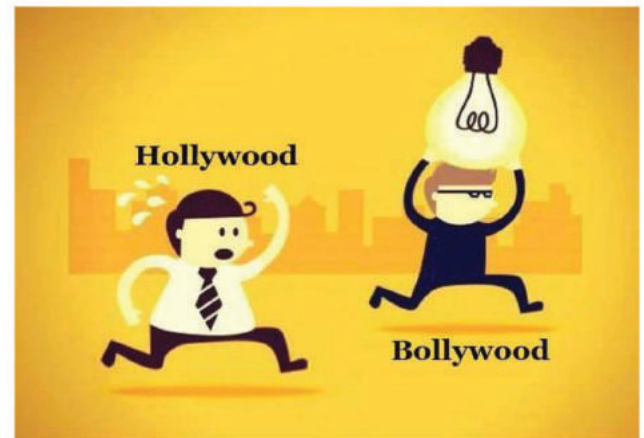
CONTROVERSIAL ISSUE INSPIRATION OR PLAGIARISM

Plagiarism is defined as the "wrongful appropriation," "close imitation," or "purloining and publication" of another author's "language, thoughts, ideas, or expressions" <https://en.wikipedia.org/wiki/Plagiarism>: <https://reelrundown.com/movies/a-complete-list-of-bollywood-movies-copied-from-hollywood-plain-plagiarism>

There is a fine line between being inspired by a film, song, story or poster and plagiarising it. Many Bollywood movies have been accused of containing plagiarised material, especially lifting elements from Hollywood. For example *Chachi 420* (1997) was inspired from *Mrs Doubtfire* (1993), and *Mere Yaar Ki Shaadi Hai* (2002) inspired by *My Best Friend's Wedding* (1997).

Today more people are aware of international films, and even if they copy they generally include some original content, or official remakes of films acknowledges the original creators. Anyway, it is difficult to prove beyond doubt that it is plagiarism.

Sketch: <https://blogs.tribune.com.pk/story/51595/bollywood-is-a-cartel-which-has-been-thriving-on-plagiarism-and-nepotism/>



**"RA.ONE" POSTER COPIED FROM
"BATMAN BEGINS"?**

<https://www.quora.com/Will-Bollywood-beat-Hollywood-Soon>



**"HISS" POSTER COPIED FROM
"KING ARTHUR"?**

<https://www.quora.com/Will-Bollywood-beat-Hollywood-Soon>

ACTIVITIES:

Refer to these websites and determine whether the posters were plagiarised. Include the definition of plagiarism and the legal implications of plagiarism

<https://www.quora.com/Will-Bollywood-beat-Hollywood-Soon>

List 10 Bollywood films accused of plagiarism

https://www.livemint.com/Consumer/xyeRpEclhBsXxm8iwSzw1H/Ten-Bollywood-films-accused-of-plagiarism.html?utm_source=scroll&utm_medium=referral&utm_campaign=scroll

CHANGES INCREASING INTERCONNECTEDNESS

Filmi Bollywood music.

The Black Eyed Peas' Award winning 2005 song *Don't Phunk with My Heart* was inspired by two 1970s Bollywood songs

Modern movie producers, directors and writers create scripts with more complicated plots, and with greater attention to **character development, action and special effects**

Plots now feature **Westernised urbanites** dating and dancing in clubs, rather than concentrating on pre-arranged marriages

Indian film companies such as **Eros, Adlabs and UTV** raised millions of dollars from **investors**, and overseas investments allows more movies to be produced

Bollywood movies no longer limited to Hindi but have incorporated **English**. **Subtitles** ensures improved understanding of Indian dialogue and culture

Hollywood co-productions, such as *Racing the Monsoon* and *Tree of Life*

Films diversified and amplified the **dark and controversial side of Indian culture** such as *Antardwand* (2010) where bachelors are abducted by bride's family and forcefully married, to avoid the dowry, and *Papilio Buddha* (2013) focusing on atrocities committed against Dalits, women and environment

Sequences shot overseas have proved box office successes.

Australia provided a backdrop for Bollywood films e.g. *Salaam Namaste* (2005).

James Bond 007, *Octopussy* (1983) infiltrated a floating palace in Udaipur, and *Life of Pi* (2012) part filmed in Kerala.

Hollywood and other film industries—cross over movies.

Baz Luhrmann's *Moulin Rouge* (2001) inspired by Bollywood musicals, Andrew Lloyd Webber's *Bombay Dreams* played in London's West End, and Danny Boyle's *Slumdog Millionaire* (2008), won four Golden Globes

Digital lifestyle and consumers spending habits provides opportunities to advance new technology.

Indian Bollywood actor Shah Rukh Khan poses during trailer launch of the Hindi film *Fan*.

Photo by Sujit Jaiswal—AFP/Getty Images <http://fortune.com/2016/12/15/netflix-india-red-chillies/>

Source: http://www.fm-kp.si/zalozba/ISSN/1854-4231/3_115-123.pdf

Bollywood facts

- Does not represent the entire Indian film industry
- Many movies listed in top 20 in UK and US
- Produces about 2000 movies a year
- Annual revenue US\$8-10billion. By 2025 predicted US\$25 billion
- Annual growth rate 10%
- Produced longest running film
- Watched by over 15 million Indians a day
- Every year there are 6 award ceremonies to celebrate Bollywood cinema

Expensive Indian movies

- 2018: 2.0 US\$69 million
- 2017: Bahubali 2: The Conclusion US\$38 million
- 2018: Padmaavat US\$33million
- 2015: Bahubali: The Beginning US\$28 million

Other facts

- The largest individual investor was for the Hindi movie, Manthan. It was crowdfunded by about 500,000 farmers in Gujarat. The movie was set amidst the background of the *White Revolution* in India.

ACTIVITY

Refer to the internet and answer the following questions on the poster advertising the movie, Bahubali.

SETTING:

Where does the story take place? Is it a historical place?

THEME:

What is the main theme of the movie?

CHARACTERS:

What are the main characters in the movie?

TWIST:

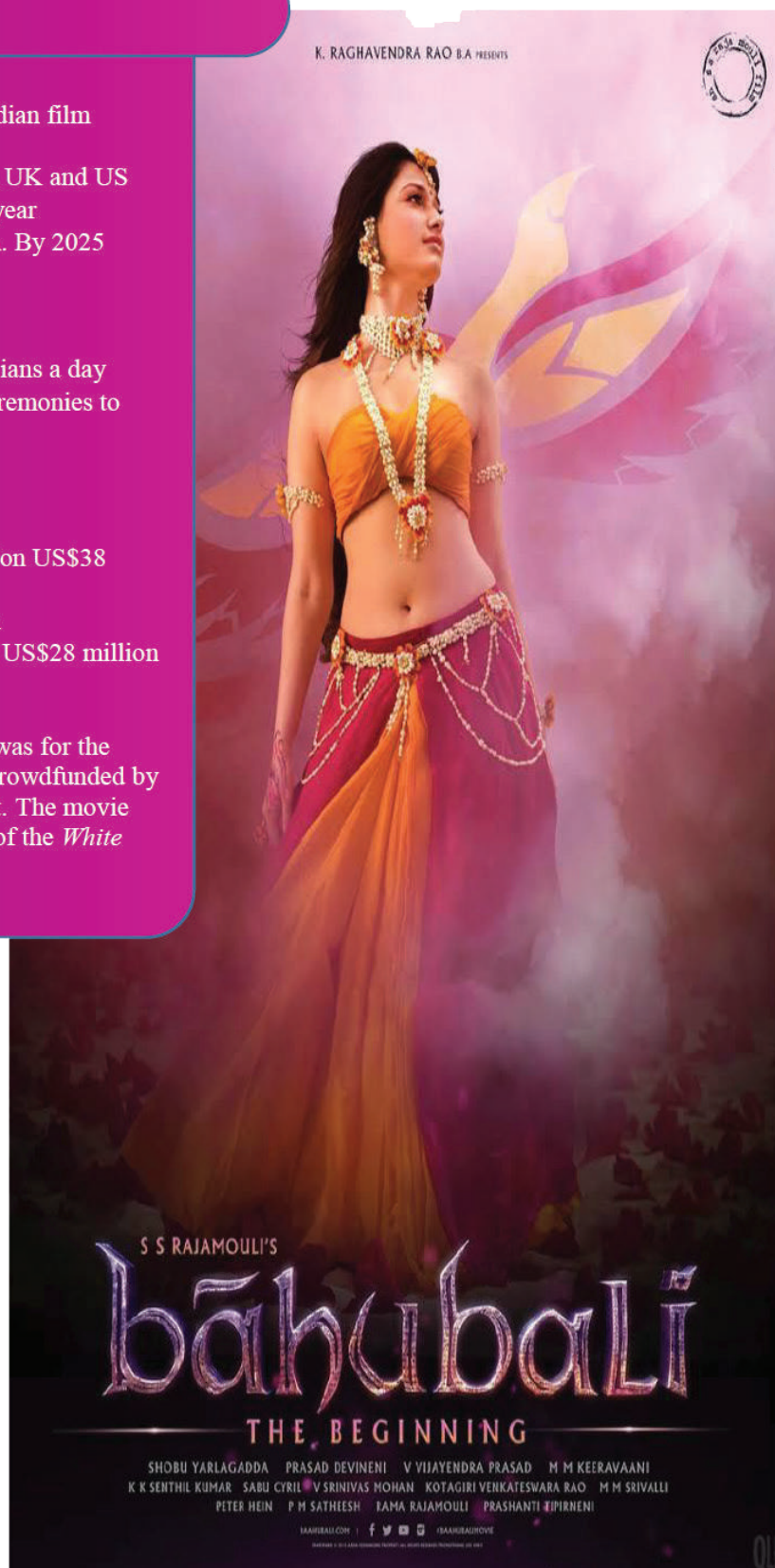
What are the main problems in the story?

MUSIC AND DANCING:

Is there music and dancing in the movie?

SOLUTION:

How does the film end?



The Beginning (2015) https://www.imdb.com/title/tt2631186/?ref=fn_al_tt_1: <https://en.wikipedia.org/wiki/Bahubali>

Poster Bahubali <http://t3.gstatic.com/images?q=tbn:ANd9GcTtM0D-a2W0dblrP9-3Dz7WhMfvCgK8a9oOnQy2GdiYekvlV4h5>

Activities

Students share their research with the class by presenting information as either.

- Diagram
- Flow chart
- Report
- Prezi <http://prezi.com/index/>
- Brochure, poster, painting
- Oral presentation
- Web page
- Comparison activity
- Film, video, YouTube
- Model

OVERVIEW: BRAINSTORM CLASS

- Define the film industry
- What is Bollywood? http://news.bbc.co.uk/cbbcnews/hi/find_out/guides/2003/bollywood/newsid_2683000/2683799.stm; <https://en.wikipedia.org/wiki/Bollywood>
- When did Bollywood start?
- Why is Bollywood popular?
- What makes Bollywood films unusual?
- What is meant by Masala movies?
- What are the global impacts of Bollywood movies on the rest of the world?
- What reforms and initiatives did the Indian government implement to increase global links to the Indian film industry?
- What problems does Bollywood face?
- What are the recommended changes required to ensure India's film industry's future success?
- What factors are anticipated to contribute to the future growth of the Indian Film Industry?

Use collaborative software such as **Padlet** <https://padlet.com/> to gather students' thoughts OR use a shared writing space such as Google Docs or **PrimaryPad** to collate students' ideas.

Explain the following words and acronyms

Global

WORDS/ACRONYMS	EXPLANATION
Indywood	
Masala film	
DESI	
NRI-P10	
PFW	
Franchise	
Plagiarism	
Nepotism	
Censorship	
Film tourism	
Ancient Sanskrit drama	
Ancient Indian epic poetry	

- Map: Global overview of film production https://en.wikipedia.org/wiki/Film_industry#/media/File:Film-production-map-2015.jpg.

National

- Statistics and facts on the Indian Film Industry <https://www.statista.com/topics/2140/film-industry-in-india/>

Refer to the websites and present as a TV report on the value of the Indian film industry to the country and its inhabitants (e.g. employment, wellbeing).

PERFORMING ARTS/CREATIVE ARTS/SOCIETY AND CULTURE/RELIGION/ENGLISH

- Overview of the **Indian Film Industry**. Summarise the main points in a short report <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-indywood-film-festival-noexp.pdf>
- Is there an Indian way of Filmmaking?** <http://sites.middlebury.edu/harc1009/files/2015/01/Lutgendorf-Is-there-an-Indian-Way-of-Filmmaking.pdf>. List the main points that makes Indian films different from western films
- Describe how films provide **colourful images** illustrating India's culture. Include annotated images.
- Discuss if **songs and dances** are meaningfully and carefully incorporated into the movies or are haphazard unnatural inclusions <https://jillbrary.wordpress.com/bollywood-and-libraries/brief-history-of-bollywood/>
- Scriptwriting:** Compose a storyboard such as boy meets girl, boy pursues girl, girl shuns boy, boy excels himself in some extraordinary task, and girl eventually accepts boy. In groups produce the story with music and dancing in the style of an Indian movie using technology.
- Research how **advertising** of Indian films has changed over time (posters, internet, product placement, celebrity endorsement and music releases). Present as a photo story.
- Advertising:** Design a Bollywood **film poster** using Glogster <http://www.glogster.com/>
- Films and **religion**: Analyse Aamir Khan's controversial film, **PK** <https://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1361&context=jrf>
- In groups, explore **religion** in India through the lens of the country's cinema. Present as an oral report
- Filmmaking activity: Imagine you are a film maker. In groups discuss the elements required to make a Bollywood film. For example:
 - Location
 - Script
 - Language
 - Film stars
 - Musical –songs and dances
 - Entertainment–either/or romance, comedy, action, drama.
 - Fashion-modern/or traditional costumes
 - Heroes and villains
- Present to class as an oral report using ICT
- In groups create **three fictional Indian characters** and apply two Indian cultural aspects to those characters. Narrate a story giving these characters appropriate voices. Create music and sound effects.
- Movie trailer activity:** Create a Bollywood movie trailer using iMovie. Include:
 - Name
 - Story overview and setting
 - Events
 - Length of movie trailer
 - Target audience-gender, age, language
 - Voice over
 - Music and/or sound effects

SOCIETY AND CULTURE

- Describe the significant features of Bollywood **culture** to a friend <http://www.abc.net.au/btn/story/s3639719.htm>
- What is meant by an **Indian touch** in a globalised world? https://www.researchgate.net/publication/240542863_I_Need_an_Indian_Touch_Glocalization_and_Bollywood_Films
- Indian films cannot be reduced to a single, **homogenous** style but to a **composite complex art form**. Explain this statement.
- The Indian film industry is segmented by language. What does this mean?

BEYOND BOLLYWOOD-DIVERSE NATURE OF INDIAN FILM INDUSTRY

Rank	Language	Name of Cinema	State
1	Hindi	Bollywood	Maharashtra
2	Telugu	Tollywood/Telugu	Andhra Pradesh,
3	Tamil	Kollywood	Tamil Nadu
4	Kannada	Sandalwood	Karnataka
5	Marathi	Marathi	Maharashtra
6	Malayalam	Mollywood	Kerala
7	Bengali	Tollywood/Bengali	West Bengal

- **Western perspective:** Describe the portrayal of India, in films produced in the west. Do they focus on stereotypes? <https://www.tandfonline.com/doi/abs/10.1080/10646170500326533>
- Identify the similarities and differences between Hollywood and Bollywood movies as a **Venn diagram**
- *Popular Indian movies reflect social conflicts between tradition and modernity, and furthermore often include a strong utopian notion – the vision of conciliation and harmony between the antagonistic powers: "Bollywood after all is not just a dream factory that belts out trashy material in the fashion of assembly line production. The potpourri despite itself, offers a glimpse of India's values, traditions, and contemporary events often in a unique formulaic package."* (Kahn & Debroy 2002, p. 86). Explain how Bollywood movies are a reflection of **tradition, modernity and rituals**. Present as a report <http://www.unifr.ch/sr/assets/files/Krueger%20page%20perso/Online%20Krueger/Bollywood.pdf>
- Debate whether Bollywood movies are sexist <https://qz.com/1104106/bollywood-has-a-very-real-gender-problem-an-analysis-of-4000-films-reveal/>
- Analyse the role of **Hindi women** in Indian films <https://ir.library.louisville.edu/cgi/viewcontent.cgi?article=2264&context=etd>
- **Perspectives:** Barring a few, the Indian film industry has remained largely mute on the spate of savagery crimes against **women and children** in the country. Shouldn't celebrities from the entertainment world, who have such a powerful and influential voice, speak up? Singer-actor-BJP minister Baabul Supriyo thinks celebrities talking about sexual violence is of little consequence. <https://www.hindustantimes.com/bollywood/apathy-narcissism-or-guilty-conscience-why-bollywood-is-silent-on-rape/story-ZiG0GoRRZhdMlJa9O8X1qI.html>. Read this article and explain your view on this article.

ICT

- Teach with **Movies** <http://www.teachwithmovies.org/>
- **Music:**
 - Music of Bollywood https://en.wikipedia.org/wiki/Music_of_Bollywood
 - Bollywood style song lesson <http://evasimkiesyan.com/2015/05/30/a-bollywood-style-song-lesson/>
- **ICT: Stereotypes and Exonerations** <https://jilllibrary.wordpress.com/bollywood-and-libraries/stereotypes-exonerations/>
- **Bollywood Inspiration** http://www.asiaeducation.edu.au/resource/asiascopeseqartsunits_bollywood_inspiration.htm
- **Bollywood Theme Park Dubai** <https://www.bollywoodparksdubai.com/en>
- **Bollywood Facts for Kids** <https://wiki.kidzsearch.com/wiki/Bollywood>

ICT: PERFORMING ARTS-BOLLYWOOD DANCE

- PowerPoint, lesson plans and resources <https://www.tes.com/teaching-resource/bollywood-dance-p-e-performing-arts-scheme-powerpoints-lesson-plans-and-resources-11303068>
- History of Bollywood dance <https://sharemylesson.com/teaching-resource/history-bollywood-dance-140509>
- Teaching Bollywood in the classroom <http://atomvic.org/spicing-up-your-life-teaching-bollywood-in-the-classroom/>
- India Lesson Plan before beginning your dance lesson http://www.bbc.co.uk/northernireland/schools/4_11/cultureclub/downloads/printouts/India-Lesson-Plan.pdf
- How to Bollywood dance <http://monkeysee.com/how-to-bollywood-dance/>
- Bollywood dancing 4-8 years https://www.qpac.com.au/resources/images/Bollywood_creative_learning_guide.pdf
- Bollywood dance 8-11 years <http://www.pescholar.com/wp-content/uploads/2013/02/Junior-Sample-Lesson-Plan-Bollywood-Dance-8-11-Years.pdf>

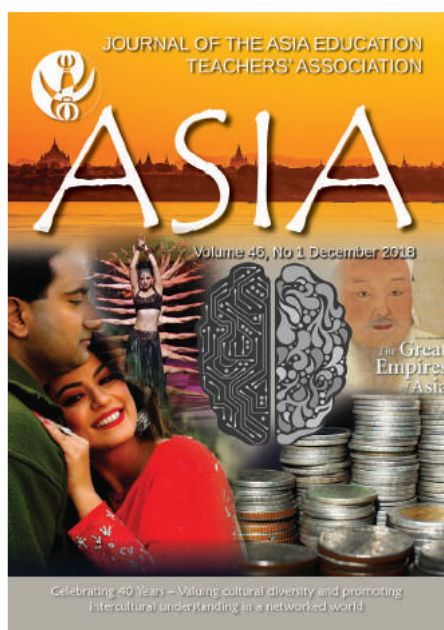
YOUTUBE

- 100 years of Indian cinema-Evergreen Superstars-with English subtitles <https://www.youtube.com/watch?v=C6JnDZad5LI>; <https://www.youtube.com/watch?v=muNWQN-tpKw>
- How big is the Indian film industry? <https://www.youtube.com/watch?v=5e43b67AuVc>
- A single shot has the power to tell a story by itself and invoke a million emotions. Based on framing, emotion and influence, 100 most iconic shots of Indian cinema <https://www.youtube.com/watch?v=oa0JjapONHY>
- Bollywood <https://www.youtube.com/watch?v=waEXlvat5GA>
- Top five Bollywood dance songs <https://www.youtube.com/watch?v=TBaj4nbdLEU>
- Background: <http://vindiatours.eu/southwest-india/>
- 10 amazing facts about Bollywood https://www.youtube.com/watch?v=4zQKjIh3_uk
- Beyond Bollywood <https://www.youtube.com/watch?v=3OU7xMO4v60>



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- 'The Great Empires of Asia' resource from Dapto High School library



ASIA EDUCATION TEACHERS' ASSOCIATION

GPO Box 2393, Sydney NSW 2001

Web: www.aeta.org.au

ABN 56 541 380 28