

Subject: SOCIETY AND STRATIFICATION

Credits: 4

SYLLABUS

Introducing Social Stratification

Social Stratification: Meaning and Approaches, Approaches to Social Stratification, Caste and Class in India
Stratification: Implications of Gender and Ethnicity, Marx and Weber, Parsons and Davis, Coser and Dahrendorf on Social Classes, Theories of Stratification: Towards and Synthesis Lenski, Luhmann, Berghe

Ethnic Stratification

Ethnicity as a Basis of Stratification, Tribal Ethnicity: The North-East, Religious Ethnicity: The Case of the Punjab, Linguistic Ethnicity in India

Gender Differentiation and Ethnicity

Gender as a Basis of Discrimination, Formation of Gender Identities, Gender Status and Power, Women's Empowerment: Some Illustrations

Explaining Caste in Indian Society

The Basis of Caste Hierarchy: Purity and Pollution, Dimensions of Caste: Rituals and Power, Caste Identity: Attributional and Interactional Approaches, Caste Dynamics: Economic and Political

Marginalized Communities and Stratification

Status of Dalits, Other Backward Classes, Scheduled Tribes, Marginalised Groups and Their Changing Status

Class in Indian Society and Social Mobility

Agrarian Class Structure, Industrial Classes, Middle Classes in India, Class Conflict, Concepts and Forms of Social Mobility, Social Mobility in Caste and Class, Factors and Forces of Social Mobility, Consequences of Social Mobility

Suggested Readings:

1. Peter Saunders, Social Class and Stratification, Routledge
2. Dipankar Gupta, Social Stratification, Oxford University Press, USA
3. Harold R Kerbo, Social Stratification and Inequality: Class Conflict in Historical, Comparative, and Global Perspective, McGraw-Hill Humanities/Social Sciences/Language

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Chapter-1

Introduction

In sociology, social stratification is a concept involving the "classification of people into groups based on shared socio-economic conditions ... a relational set of inequalities with economic, social, political and ideological dimensions." When differences lead to greater status, power or privilege for some groups over the other it is called social stratification. It is a system by which society ranks categories of people, hierarchy. Social stratification is based on four basic principles: (1) Social stratification is a trait of society, not simply a reflection of individual differences; (2) Social stratification carries over from generation to generation; (3) Social stratification is universal but variable; (4) Social stratification involves not just inequality but beliefs as well.

In modern Western societies, stratification is broadly organized into three main layers: upper class, middle class, and lower class. Each of these classes can be further subdivided into smaller classes (e.g. occupational).

These categories are not particular to state-based societies as distinguished from feudal societies composed of nobility-to-peasant relations. Stratification may also be defined by kinship ties or castes. For Max Weber, social class pertaining broadly to material wealth is distinguished from status class which is based on such variables as honor, prestige and religious affiliation. Talcott Parsons argued that the forces of societal differentiation and the following pattern of institutionalized individualization would strongly diminish the role of class (as a major stratification factor) as social evolution went along. It is debatable whether the earliest hunter-gatherer groups may be defined as 'stratified', or if such differentials began with agriculture and broad acts of exchange between groups. One of the ongoing issues in determining social stratification arises from the point that status inequalities between individuals are common, so it becomes a quantitative issue to determine

Western culture

Western culture, sometimes equated with Western civilization, Western lifestyle or European civilization, is a term used very broadly to refer to a heritage of social norms, ethical values,

traditional customs, belief systems, political systems, and specific artifacts and technologies that have some origin or association with Europe. The term has come to apply to countries whose history is strongly marked by European immigration, such as the countries of the Americas and Australasia, and is not restricted to the continent of Europe.

Western culture is characterized by a host of artistic, philosophic, literary, and legal themes and traditions; the heritage of Celtic, Germanic, Hellenic, Jewish, Slavic, Latin, and other ethnic and linguistic groups, as well as Christianity, which played an important part in the shaping of Western civilization since at least the 4th century. Also contributing to Western thought, in ancient times and then in the Middle Ages and the Renaissance onwards, a tradition of rationalism in various spheres of life, developed by Hellenistic philosophy, Scholasticism, humanism, the Scientific Revolution and the Enlightenment. Values of Western culture have, throughout history, been derived from political thought, widespread employment of rational argument favouring freethought, assimilation of human rights, the need for equality, and democracy. Historical records of Western culture in Europe begin with Ancient Greece and Ancient Rome. Western culture continued to develop with Christianization during the Middle Ages, the reform and modernization triggered by the Renaissance, and with globalization by successive European empires, that spread European ways of life and European educational methods around the world between the 16th and 20th centuries. European culture developed with a complex range of philosophy, medieval scholasticism and mysticism, and Christian and secular humanism. Rational thinking developed through a long age of change and formation, with the experiments of the Enlightenment, and breakthroughs in the sciences. With its global connection, European culture grew with an all-inclusive urge to adopt, adapt, and ultimately influence other cultural trends around the world. Tendencies that have come to define modern Western societies include the existence of political pluralism, prominent subcultures or countercultures (such as New Age movements), and increasing cultural syncretism - resulting from globalization and human migration.

Terminology

Roman Empire.

The Greeks contrasted themselves to their Eastern neighbors, such as the Trojans in Iliad, setting an example for later contrasts between east and west. In the Middle Ages, the Near East provided a contrast to the West, though Hellenized since the time of Alexander the Great, and ruled from Rome and Constantinople.

In the early 21st century, with increasing globalism, it has become more difficult to determine which individuals fit into which category, and the East–West contrast is sometimes criticized as relativistic and arbitrary.

Globalism has spread Western ideas so widely that almost all modern cultures are, to some extent, influenced by aspects of Western culture. Recent stereotyped views of "the West" have been labelled Occidentalism, paralleling Orientalism - the term for the 19th-century stereotyped views of "the East".

Boundaries of countries that constitute "the West" remain unclear. Geographically, the "West" of today would include Europe (especially the European Union countries) together with extra-European territories belonging to the Anglosphere, as well as the Hispanidad, the Lusosphere or the Francophonie in the wider context. Since the context is highly biased and context-dependent, there is no agreed definition what the "West" is.

History

Western culture is neither homogeneous nor unchanging. As with all other cultures it has evolved and gradually changed over time. All generalities about it have their exceptions at some time and place. The organisation and tactics of the Greek Hoplites differed in many ways from the Roman legions. The polis of the Greeks is not the same as the American superpower of the 21st century. The gladiatorial games of the Roman Empire are not identical to present-day football. The art of Pompeii is not the art of Hollywood. Nevertheless, it is possible to follow the evolution and history of the West, and appreciate its similarities and differences, its borrowings from, and contributions to, other cultures of humanity.

Concepts of what is the West arose out of legacies of the Western Roman Empire and the Eastern Roman Empire. Later, ideas of the west were formed by the concepts of Latin Christendom and the Holy Roman Empire. What we think of as Western thought today originates primarily from Greco-Roman and Germanic influences, and includes the ideals of the Middle Ages, the Renaissance and the Enlightenment, as well as Christian culture. The West as a geographical area, of populations, is less clear. There is some disagreement about what nations should or should not be included in the category, and at what times. Many parts of the Eastern Roman Empire are considered Western today, but were obviously Eastern in the past.

The Classical West

Alexander the Great

In Homeric literature, and right up until the time of Alexander the Great, for example in the accounts of the Persian Wars of Greeks against Persians by Herodotus, we see the paradigm of a contrast between the West and East.

Nevertheless the Greeks felt they were the most civilized and saw themselves (in the formulation of Aristotle) as something between the wild barbarians of most of Europe and the soft, slavish Middle-Easterners. Ancient Greek science, philosophy, democracy, architecture, literature, and art provided a foundation embraced and built upon by the Roman Empire as it swept up Europe, including the Hellenic World in its conquests in the 1st century BC. In the meantime however, Greece, under Alexander, had become a capital of the East, and part of an empire.

For about five hundred years, the Roman Empire maintained the Greek East and consolidated a Latin West, but an East-West division remained, reflected in many cultural norms of the two areas, including language. Although Rome, like Greece, was no longer democratic, the idea of democracy remained a part of the education of citizens.

Eventually the empire became increasingly split into a Western and Eastern part, reviving old ideas of a contrast between an advanced East, and a rugged West. In the Roman world one could speak of three main directions; North (Celtic tribes and Parthians), the East (*lux ex oriente*), and finally South, which implied danger, historically via the Punic wars (*Quid novi ex Africa?*) The West was peaceful— it contained only the Mediterranean.

Christianity emerged from Judaism on the eastern shore of the Mediterranean, and both spread around the Roman world, with Christianity being the more popular religion. With the rise of Christianity, much of Rome's tradition and culture were reshaped by that religion, and transformed into something new, which would serve as the basis for the development of Western civilization after the fall of Rome. Also, Roman culture mixed with the pre-existing Celtic, Germanic and Slavic cultures, which slowly became integrated into Western culture starting, mainly, with their acceptance of Christianity.

The Medieval West

The Medieval West was at its broadest the same as Christendom, including both the "Latin" or "Frankish" West, and the Orthodox Eastern part, where Greek remained the language of empire. After the crowning of Charlemagne, Charlemagne's part of Europe was referred to by its neighbors in Byzantium and the Muslim world as "Frankish".

After the fall of Rome much of Greco-Roman art, literature, science and even technology were all but lost in the western part of the old empire, centered around Italy, and Gaul (France). However, this would become the centre of a new West. Europe fell into political anarchy, with many warring kingdoms and principalities. Under the Frankish kings, it eventually, and partially, reunified, and the anarchy evolved into feudalism. Charlemagne was crowned Emperor of the Romans by the Pope in 800. His reign is associated with the Carolingian Renaissance, a revival of art, religion, and culture through the medium of the Catholic Church. Through his foreign conquests and internal reforms, Charlemagne helped define both western Europe and the Middle Ages. He is numbered as Charles I in the regnal lists of France, Germany (where he is known as Karl der Große), and the Holy Roman Empire. The re-establishment of a Western "Roman" imperium challenged the status of the Eastern Roman Emperor in Constantinople and strained relations between them.

Much of the basis of the post-Roman cultural world had been set before the fall of the Empire, mainly through the integration and reshaping of Roman ideas through Christian thought. The Greek and Roman paganism had been completely replaced by Christianity around the 4th and 5th centuries, since it became the official State religion following the baptism of emperor Constantine I. Roman Catholic Christianity and the Nicene Creed served as a unifying force in

Christian parts of Europe, and in some respects replaced or competed with the secular authorities. Art and literature, law, education, and politics were preserved in the teachings of the Church, in an environment that, otherwise, would have probably seen their loss. The Church founded many cathedrals, universities, monasteries and seminaries, some of which continue to exist today. In the Medieval period, the route to power for many men was in the Church.

Charlemagne.

In a broader sense, the Middle Ages, with its fertile encounter between Greek philosophical reasoning and Levantine monotheism was not confined to the West but also stretched into the old East. The philosophy and science of Classical Greece was largely forgotten in Europe after the collapse of the Western Roman Empire, other than in isolated monastic enclaves (notably in Ireland, which had become Christian but was never conquered by Rome).[9] Although the Byzantine Emperor Justinian (the last Emperor to speak Latin as a first tongue) closed the Academy in AD 529 (a date that is often cited as the end of Antiquity), the learning of Classical Antiquity was better preserved in the Byzantine Eastern Roman Empire, whose capital at Constantinople stood for another millennium, before being captured by the Ottoman Turks. Justinian's Corpus Juris Civilis Roman civil law code was preserved in the East and Constantinople maintained trade and intermittent political control over outposts such as Venice in the West for centuries. Classical Greek learning was also subsumed, preserved and elaborated in the rising Eastern world, which gradually supplanted Roman-Byzantine control over the Mediterranean, Middle East, North Africa, Iberia and even Greece itself – becoming a dominant cultural-political force in those regions. Thus, from the margins of the Roman world much of the learning of classical antiquity was slowly reintroduced to European civilisation in the centuries following the collapse of the Western Roman Empire. Irish missionaries such as St Columba propagated the learning of Christianity and Latin in Christianised parts of Europe during the Early Medieval Period and Byzantine Greeks and Arabs reintroduced texts from Antiquity into Europe during the Late Middle Ages and Renaissance of the 12th century, in Italy and Spain.

The discovery of the New World by Christopher Columbus.

The rediscovery of the Justinian Code in Western Europe early in the 10th century rekindled a passion for the discipline of law, which crossed many of the re-forming boundaries between East and West. Eventually, it was only in the Catholic or Frankish west, that Roman law became the foundation on which all legal concepts and systems were based. Its influence can be traced to this day in all Western legal systems (although in different manners and to different extents in the common (England) and the civil (continental European) legal traditions). The study of canon law, the legal system of the Catholic Church, fused with that of Roman law to form the basis of the refounding of Western legal scholarship. The ideas of civil rights, equality before the law, equality of women, procedural justice, and democracy as the ideal form of society were principles formed the basis of modern Western culture.

The West actively encouraged the spreading of Christianity, which was inexorably linked to the spread of Western culture. The rise of a competing culture, that of Islam, caused Europeans to react, often militarily, but also in other ways, such as trade through the Italian maritime republics. Europeans translated many Arabic texts into Latin during the Middle Ages. Later, with the fall of Constantinople and the Ottoman conquest of the Byzantine Empire, followed by a massive exodus of Greek Christian priests and scholars to Italian cities such as Venice, bringing with them as many scripts from the Byzantine archives as they could, scholars' interest for the Greek language and its classic works, topics and lost files, was revived. This revival eventually led to the beginnings of the Renaissance. From the late 15th century to the 17th century, Western culture began to spread to other parts of the world through the vehicle of intrepid explorers and missionaries during the Age of Discovery, and by imperialists from the 17th century to the early 20th century.

Chapter-2

The Modern Era

Coming into the modern era, the historical understanding of the East-West contrast – as the opposition of Christendom to its geographical neighbors – began to weaken. As religion became less important, and Europeans came into increasing contact with far away peoples, the old concept of Western culture began a slow evolution towards what it is today. The Early Modern "Age of Discovery," first led by Portugal and Spain in the 15th and 16th centuries with France, England and the Dutch Republic following in the 17th century, faded into the "Age of Enlightenment" of the 18th century, characterized by the military advantage of Europeans from the development of firearms and other military technologies. The "Great Divergence" became more pronounced, making the West the bearer of science and the accompanying revolutions of technology and industrialisation. Western political thinking also spread rapidly and in many forms around the world. With the early 19th-century "Age of Revolution", the West entered a period of empires, massive economic and technological advance, and bloody international conflicts, that continued into the 20th century.

As Europe discovered the wider world, old concepts adapted. The area that had formerly been considered "the Orient" ("the East") became the "Near East", as the interests of the European powers interfered with Qing China and Meiji Japan for the first time, in the 19th century. Thus, the Sino-Japanese War in 1894–1895 occurred in the "Far East", while the troubles surrounding the decline of the Ottoman Empire simultaneously occurred in the "Near East". The term "Middle East", in the mid-19th century, included the territory east of the Ottoman empire but West of China - i.e. Greater Persia and Greater India, but is now used synonymously with "Near East" in most languages.

Cultural forms

Some cultural and artistic modalities are characteristically Western in origin and form. While dance, music, visual art, story-telling, and architecture are human universals, they are expressed in the West in certain characteristic ways.

In Western dance, music, plays and other arts, the performers are only very infrequently masked. There are essentially no taboos against depicting a god, or other religious figures, in a representational fashion.

German composer and pianist Ludwig van Beethoven.

Music

The Beatles in 1964. The Beatles are considered one of the most influential musical acts of the rock era.

The symphony, concerto, sonata, opera and oratorio have their origins in Italy. Many important musical instruments used by cultures all over the world were also developed in the West; among them are the violin, piano, pipe organ, saxophone, trombone, clarinet, accordion, and the theremin. The solo piano, symphony orchestra and the string quartet are also important performing musical forms.

Many forms of popular music have been derived from African-Americans, and their innovations of jazz and blues serve as the basis from which much of modern popular music derives. Folklore and music during 19th and 20th centuries, initially by themselves, but later played and further developed together with White and Black Americans, British people, and Westerners in general. These include jazz, blues and rock music (that in a wider sense include the rock and roll and heavy metal genres), rhythm and blues, funk, Hip-Hop, techno as well as the ska and reggae genres from Jamaica. Several other related or derived styles were developed and introduced by Western pop culture such as pop, metal and dance music.

Painting and photography

Jan van Eyck, among other renaissance painters, made great advances in oil painting, and perspective drawings and paintings had their earliest practitioners in Florence. In art, the Celtic knot is a very distinctive Western repeated motif. Depictions of the nude human male and female in photography, painting and sculpture are frequently considered to have special artistic merit. Realistic portraiture is especially valued.

Photography, and the motion picture as both a technology and basis for entirely new art forms, were also developed in the West.

The ballet is a distinctively Western form of performance dance. The ballroom dance is an important Western variety of dance for the elite. The polka, the square dance, and the Irish step dance are very well known Western forms of folk dance.

The soap opera, a popular culture dramatic form, originated in the United States first on radio in the 1930s, then a couple of decades later on television. The music video was also developed in the West in the middle of the 20th century.

Literature

While epic literary works in verse such as the Mahabharata and Homer's Iliad are ancient and occurred worldwide, the prose novel as a distinct form of storytelling, with developed, consistent human characters and, typically, some connected overall plot (although both of these characteristics have sometimes been modified and played with in later times), was popularized by the West in the 17th and 18th centuries. Of course extended prose fiction had existed much earlier; both novels of adventure and romance in the Hellenistic world and in Heian Japan. Both Petronius' Satyricon (ca 60 CE) and the Tale of Genji by Murasaki Shikibu (ca 1000 CE) have been cited as the world's first major novel but they had very limited long-term impact on literary writing beyond their own day until much more recent times.

Tragedy, from its ritually and mythologically inspired Greek origins to modern forms where struggle and downfall are often rooted in psychological or social, rather than mythical, motives, is also widely considered a specifically European creation, and can be seen as a forerunner of some aspects of both the novel and of classical opera.

Architecture

Important Western architectural motifs include the Doric, Corinthian, and Ionic columns, and the Romanesque, Gothic, Baroque, and Victorian styles are still widely recognised, and used even today, in the West. Much of Western architecture emphasizes repetition of simple motifs, straight lines and expansive, undecorated planes. A modern ubiquitous architectural form that

emphasizes this characteristic is the skyscraper, first developed in New York, London, and Chicago.

- The Colosseum in Rome, Italy.
- The Neuschwanstein Castle in Schwangau, Germany.
- The Washington Monument in Washington, D.C., United States.

Media

2013 Press Freedom Index

Very serious situation

Difficult situation

Noticeable problems Satisfactory situation

Good situation

Not classified / No data

The Western media refers to the news media of the Western world. It is mainly characterized by the freedom of the press, and has gradually expanded into developing countries. In recent years, many Western media outlets have seen their circulation figures stagnate. Despite the slowing of its growth, the mainstream Western media continues to be perceived as a fair, independent and objective medium of news reporting.

Religion

Saint Peter's Basilica in the Vatican City.

The Marble Church in Copenhagen, Denmark.

Western culture, for at least the last 1000 years, has been considered nearly synonymous with Christian culture.] Before this time many Europeans from the north, especially Scandinavians, remained polytheistic, though southern Europe was predominately Christian from the 5th century onwards. The native religions of Europe were polytheistic but not homogenous - however they were similar insofar as they were predominately Indo-European in origin. Roman religion was similar to but not the same as Hellenic religion - likewise the same for indigenous Germanic polytheism, Celtic polytheism and Slavic polytheism.

Christ the Redeemer in Rio de Janeiro, Brazil.

From the Dark Ages onwards, while Eastern Europe was under the influence of the Orthodox Church, as the centralized Roman power waned in southern and central Europe, the dominance of the Catholic Church was the only consistent force in Western Europe. In 1054 came the so-called Great Schism that, following the Greek East and Latin West divide, separated Europe into religious and cultural regions present to this day. Until the Age of Enlightenment, Christian culture took over as the predominant force in western civilization, guiding the course of philosophy, art, and science for many years. Movements in art and philosophy, such as the Humanist movement of the Renaissance and the Scholastic movement of the High Middle Ages, were motivated by a drive to connect Catholicism with Greek and Arab thought imported by Christian pilgrims. However, due to the division in Western Christianity caused by the Protestant reformation and the Enlightenment, religious influence - especially the temporal power of the Pope - began to wane.

Christianity was not the only religion practised in the West, Islam came to Europe in various ways, as merchants (Southern Europe, Russia and the Caucasus) and including through conquest (Al-Andalus and Tatarstan). New research has uncovered a Bözörmény Muslim community in 12th-century Hungary with roots in Muslim merchants in commerce with Asia over the Silk Road. Significant communities of Muslim Lipka Tatars lived throughout the Polish-Lithuanian

Commonwealth. The Christian conquests of the Iberian peninsula and southern Italy helped to reintroduce ideas and concepts lost to the Western World after the fall of Rome in A.D. 476. Arab speaking scholars saved influential pre-Christian texts and this coupled with the introduction of aspects of medieval Islamic culture (including the arts, agriculture, economics, philosophy, science and technology) assisted with fomenting conditions required for a rebirth of European thought and art (Renaissance). (See Latin translations of the 12th century and Islamic contributions to Medieval Europe for more information).

As in other areas, Judaism is found in the Western world. Minority groups, and Jews in particular, often had to contend with discrimination and persecution. This could include being subjected to violence and/or destruction of property (this may be referred to as a pogrom) as well as being expelled or banned from various polities, hoping to find havens in other places.

Mexico City Cathedral consecrated in 1656

Religion has waned considerably in Europe, where many are today agnostic or atheist and they make up about 18.2% of Europeans population. In terms of irreligion, over half of the populations of the Czech Republic (79.4% of the population was agnostic, atheist or irreligious), the United Kingdom (~25%), Germany (25-33%), France (22-35%) and the Netherlands (39–44%) are agnostic, atheist, or otherwise non-religious. However, per another survey from 2011, Christianity remains the dominant religion in the Western world. According to this survey, 76.2% of Europeans described themselves as Christians, Nearly 86.0% of citizens of the Americas] practice Christianity.

Throughout the Western world there are increasing numbers of people who seek to revive the indigenous religions of their European ancestors, such groups include Germanic, Roman, Hellenic, Celtic and Slavic, polytheistic reconstructionist movements, likewise, Wicca, new age spirituality and other neo-pagan belief systems enjoy notable minority support in Western nations.

Sport

The Bull-Leaping Fresco from the Great Palace at Knossos, Crete. Sport has been an important part of Western cultural expression since Classical Antiquity.

Baron Pierre de Coubertin, founder of the International Olympic Committee, and considered father of the modern Olympic Games.

Since Classical Antiquity, sport has been an important facet of Western cultural expression. A wide range of sports were already established by the time of Ancient Greece and the military culture and the development of sports in Greece influenced one another considerably. Sports became such a prominent part of their culture that the Greeks created the Olympic Games, which in ancient times were held every four years in a small village in the Peloponnesus called Olympia. Baron Pierre de Coubertin, a Frenchman, instigated the modern revival of the Olympic movement. The first modern Olympics were held at Athens in 1896.

The Romans built immense structures such as the Coliseum in Rome to house their festivals of sport. The Romans exhibited a passion for blood sports, as in the infamous Gladiatorial battles that pitted contestants against one another in a fight to the death. The Olympic Games revived many of the sports of Classical Antiquity - such as Greco-Roman wrestling, discus and javelin. The sport of bullfighting is a traditional spectacle of Spain, Portugal, southern France, and some Latin American countries. It traces its roots to prehistoric bull worship and sacrifice and is often linked to Rome, where many human-versus-animal events were held. Bullfighting spread from Spain to its Central and South American colonies, and in the 19th century to France, where it developed into a distinctive form in its own right.

Jousting and hunting were popular sports in the Western Europe of the Middle Ages, and the aristocratic classes of Europe developed passions for leisure activities. A great number of the popular global sports were first developed or codified in Europe. The modern game of golf originated in Scotland, where the first written record of golf is James II's banning of the game in 1457, as an unwelcome distraction to learning archery. The Industrial Revolution that began in Britain in the 18th Century brought increased leisure time, leading to more time for citizens to attend and follow spectator sports, greater participation in athletic activities, and increased accessibility. These trends continued with the advent of mass media and global communication.

The bat and ball sport of cricket was first played in England during the 16th century and was exported around the globe via the British Empire. A number of popular modern sports were devised or codified in Britain during the 19th Century and obtained global prominence – these include Ping Pong, modern tennis, Association Football, Netball and Rugby.

Football (also known as soccer) remains hugely popular in Europe, but has grown from its origins to be known as the world game. Similarly, sports such as cricket, rugby, and netball were exported around the world, particularly among countries in the Commonwealth of Nations, thus India and Australia are among the strongest cricketing nations, while victory in the Rugby World Cup has been shared among the Western nations of New Zealand, Australia, South Africa and England.

Australian Rules Football, an Australian variation of football with similarities to Gaelic football and rugby evolved in the British colony of Victoria in the mid-19th century. The United States also developed unique variations of English sports. English migrants took antecedents of baseball to America during the colonial period. The history of American football can be traced to early versions of rugby football and association football. Many games known as "football" were being played at colleges and universities in the United States in the first half of the 19th century. American football resulted from several major divergences from rugby, most notably the rule changes instituted by Walter Camp, the "Father of American Football". Basketball was invented in 1891 by James Naismith, a Canadian physical education instructor working in Springfield, Massachusetts in the United States. From these American origins, basketball has become one of the great international participation sports.

Professionalism in sport in the West became prevalent during the 20th Century, further adding to the increase in sport's popularity, as sports fans began following the exploits of professional athletes through radio, television, and the internet—all while enjoying the exercise and competition associated with amateur participation in sports.

- Sir Don Bradman, one of the great exponents of the game of cricket.
- German flags waving at the 2006 Football World Cup.

Chapter-3

Scientific and Technological Inventions and Discoveries

A notable feature of Western culture is its strong emphasis and focus on innovation and invention through science and technology, and its ability to generate new processes, materials and material artifacts with its roots dating back to the Ancient Greeks.

It was the West that first developed steam power and adapted its use into factories, and for the generation of electrical power. The electrical motor, dynamo, transformer, and electric light, and indeed most of the familiar electrical appliances, were inventions of the West. The Otto and the Diesel internal combustion engines are products whose genesis and early development were in the West. Nuclear power stations are derived from the first atomic pile constructed in Chicago in 1942.

Communication devices and systems including the telegraph, the telephone, radio, television, communication and navigation satellites, mobile phone, and the Internet were all invented by Westerners. The pencil, ballpoint pen, CRT, LCD, LED, camera, photocopier, laser printer, ink jet printer, plasma display screen and world wide web were also invented in the West.

Ubiquitous materials including concrete, aluminium, clear glass, synthetic rubber, synthetic diamond and the plastics polyethylene, polypropylene, PVC and polystyrene were invented in the West. Iron and steel ships, bridges and skyscrapers first appeared in the West. Nitrogen fixation and petrochemicals were invented by Westerners. Most of the elements, were discovered and named in the West, as well as the contemporary atomic theories to explain them.

The transistor, integrated circuit, memory chip, and computer were all first seen in the West. The ship's chronometer, the screw propeller, the locomotive, bicycle, automobile, and aeroplane were all invented in the West. Eyeglasses, the telescope, the microscope and electron microscope, all the varieties of chromatography, protein and DNA sequencing, computerised tomography, NMR, x-rays, and light, ultraviolet and infrared spectroscopy, were all first developed and applied in Western laboratories, hospitals and factories.

In medicine, vaccination, anesthesia, and all the pure antibiotics were created in the West. The method of preventing Rh disease, the treatment of diabetes, and the germ theory of disease were discovered by Westerners. The eradication of smallpox, was led by a Westerner, Donald Henderson. Radiography, Computed tomography, Positron emission tomography and Medical ultrasonography are important diagnostic tools developed in the West. Other important diagnostic tools of clinical chemistry including the methods of spectrophotometry, electrophoresis and immunoassay were first devised by Westerners. So were the stethoscope, electrocardiograph, and the endoscope. Vitamins, hormonal contraception, hormones, insulin, Beta blockers and ACE inhibitors, along with a host of other medically proven drugs were first utilized to treat disease in the West. The double-blind study and evidence-based medicine are critical scientific techniques widely used in the West for medical purposes.

In mathematics, calculus, statistics, logic, vectors, tensors and complex analysis, group theory and topology were developed by Westerners. In biology, evolution, chromosomes, DNA, genetics and the methods of molecular biology are creatures of the West. In physics, the science of mechanics and quantum mechanics, relativity, thermodynamics, and statistical mechanics were all developed by Westerners. The discoveries and inventions by Westerners in electromagnetism include Coulomb's law (1785), the first battery (1800), the unity of electricity and magnetism (1820), Biot–Savart law (1820), Ohm's Law (1827), and the Maxwell's equations (1871). The atom, nucleus, electron, neutron and proton were all unveiled by Westerners.

In business, economics, and finance, double entry bookkeeping, credit card, and the charge card were all first used in the West.

Westerners are also known for their explorations of the globe and Outer space. The first expedition to circumnavigate the Earth (1522) was by Westerners, as well as the first journey to the South Pole (1911), and the first moon landing (1969). The landing of robots on Mars (2004 and 2012) and on an asteroid (2001), and the Voyager explorations of the outer planets (Uranus in 1986 and Neptune in 1989) were significant recent Western achievements.

Outer space

Outer space, or simply space, is the void that exists between celestial bodies, including the Earth.[1] It is not completely empty, but consists of a hard vacuum containing a low density of

particles: predominantly a plasma of hydrogen and helium, as well as electromagnetic radiation, magnetic fields, neutrinos, dust and cosmic rays. The baseline temperature, as set by the background radiation (from the theorized Big Bang), is 2.7 kelvin (K). Plasma with a density of less than one hydrogen atom per cubic meter and a temperature of millions of kelvin in the space between galaxies accounts for most of the baryonic (ordinary) matter in outer space; local concentrations have condensed into stars and galaxies. In most galaxies, observations provide evidence that 90% of the mass is in an unknown form, called dark matter, which interacts with other matter through gravitational but not electromagnetic forces. Data indicates that the majority of the mass-energy in the observable Universe is a poorly understood vacuum energy of space which astronomers label dark energy. Intergalactic space takes up most of the volume of the Universe, but even galaxies and star systems consist almost entirely of empty space.

There is no firm boundary where space begins. However the Kármán line, at an altitude of 100 km (62 mi) above sea level, is conventionally used as the start of outer space in space treaties and for aerospace records keeping. The framework for international space law was established by the Outer Space Treaty, which was passed by the United Nations in 1967. This treaty precludes any claims of national sovereignty and permits all states to freely explore outer space. In 1979, the Moon Treaty made the surfaces of objects such as planets, as well as the orbital space around these bodies, the jurisdiction of the international community. Despite the drafting of UN resolutions for the peaceful uses of outer space, anti-satellite weapons have been tested in Earth orbit.

Humans began the physical exploration of space during the 20th century with the advent of high-altitude balloon flights, followed by manned rocket launches. Earth orbit was first achieved by Yuri Gagarin of the Soviet Union in 1961 and unmanned spacecraft have since reached all of the known planets in the Solar System. Achieving low Earth orbit requires a minimum velocity of 28,100 km/h (17,500 mph), much faster than any conventional aircraft. Outer space represents a challenging environment for human exploration because of the dual hazards of vacuum and radiation. Microgravity has a negative effect on human physiology, causing muscle atrophy and bone loss. Space travel has been limited to low Earth orbit and the Moon for manned flight, and the vicinity of the Solar System for unmanned vehicles. In August 2012, Voyager 1 became the first man-made craft to enter interstellar space.

Discovery

In 350 BC, Greek philosopher Aristotle suggested that nature abhors a vacuum, a principle that became known as the horror vacui. This concept built upon a 5th-century BCE ontological argument by the Greek philosopher Parmenides, who denied the possible existence of a void in space.] Based on this idea that a vacuum could not exist, in the West it was widely held for many centuries that space could not be empty. As late as the 17th century, the French philosopher René Descartes argued that the entirety of space must be filled.

In ancient China, there were various schools of thought concerning the nature of the heavens, some of which bear a resemblance to the modern understanding. In the 2nd century, astronomer Zhang Heng became convinced that space must be infinite, extending well beyond the mechanism that supported the Sun and the stars. The surviving books of the Hsüan Yeh school said that the heavens were boundless, "empty and void of substance". Likewise, the "sun, moon, and the company of stars float in the empty space, moving or standing still".

The Italian scientist Galileo Galilei knew that air had mass and so was subject to gravity. In 1640, he demonstrated that an established force resisted the formation of a vacuum. However, it would remain for his pupil Evangelista Torricelli to create an apparatus that would produce a vacuum in 1643. This experiment resulted in the first mercury barometer and created a scientific sensation in Europe. The French mathematician Blaise Pascal reasoned that if the column of mercury was supported by air then the column ought to be shorter at higher altitude where the air pressure is lower. In 1648, his brother-in-law, Florin Périer, repeated the experiment on the Puy-de-Dôme mountain in central France and found that the column was shorter by three inches. This decrease in pressure was further demonstrated by carrying a half-full balloon up a mountain and watching it gradually inflate, then deflate upon descent.

The original Magdeburg hemispheres(lower left) used to demonstrate Otto von Guericke's vacuum pump (right)

In 1650, German scientist Otto von Guericke constructed the first vacuum pump: a device that would further refute the principle of *horror vacui*. He correctly noted that the atmosphere of the Earth surrounds the planet like a shell, with the density gradually declining with altitude. He concluded that there must be a vacuum between the Earth and the Moon.

Back in the 15th century, German theologian Nicolaus Cusanus speculated that the Universe lacked a center and a circumference. He believed that the Universe, while not infinite, could not be held as finite as it lacked any bounds within which it could be contained. These ideas led to speculations as to the infinite dimension of space by the Italian philosopher Giordano Bruno in the 16th century. He extended the Copernican heliocentric cosmology to the concept of an infinite Universe filled with a substance he called aether, which did not cause resistance to the motions of heavenly bodies. English philosopher William Gilbert arrived at a similar conclusion, arguing that the stars are visible to us only because they are surrounded by a thin aether or a void. This concept of an aether originated with ancient Greek philosophers, including Aristotle, who conceived of it as the medium through which the heavenly bodies moved.

The concept of a Universe filled with a luminiferous aether remained in vogue among some scientists until the early 20th century. This form of aether was viewed as the medium through which light could propagate. In 1887, the Michelson–Morley experiment tried to detect the Earth's motion through this medium by looking for changes in the speed of light depending on the direction of the planet's motion. However, the null result indicated something was wrong with the concept. The idea of the luminiferous aether was then abandoned. It was replaced by Albert Einstein's theory of special relativity, which holds that the speed of light in a vacuum is a fixed constant, independent of the observer's motion or frame of reference.

The first professional astronomer to support the concept of an infinite Universe was the Englishman Thomas Digges in 1576. But the scale of the Universe remained unknown until the first successful measurement of the distance to a nearby star in 1838 by the German astronomer Friedrich Bessel. He showed that the star 61 Cygni had a parallax of just 0.31 arcseconds (compared to the modern value of 0.287"). This corresponds to a distance of over 10 light years.

The distance to the Andromeda Galaxy was determined in 1923 by American astronomer Edwin Hubble by measuring the brightness of cepheid variables in that galaxy, a new technique discovered by Henrietta Leavitt. This established that the Andromeda galaxy, and by extension all galaxies, lay well outside the Milky Way.

The earliest known estimate of the temperature of outer space was by the Swiss physicist Charles É. Guillaume in 1896. Using the estimated radiation of the background stars, he concluded that space must be heated to a temperature of 5–6 K. British physicist Arthur Eddington made a similar calculation to derive a temperature of 3.18° in 1926. 1933 German physicist Erich Regener used the total measured energy of cosmic rays to estimate an intergalactic temperature of 2.8 K.

The modern concept of outer space is based on the "Big Bang" cosmology, first proposed in 1931 by the Belgian physicist Georges Lemaître. This theory holds that the observable Universe originated from a very compact form that has since undergone continuous expansion. The background energy released during the initial expansion has steadily decreased in density, leading to a 1948 prediction by American physicists Ralph Alpher and Robert Herman of a temperature of 5 K for the temperature of space.

The term outer space was used as early as 1842 by the English poet Lady Emmeline Stuart-Wortley in her poem "The Maiden of Moscow". The expression outer space was used as an astronomical term by Alexander von Humboldt in 1845. It was later popularized in the writings of H. G. Wells in 1901. The shorter term space is actually older, first used to mean the region beyond Earth's sky in John Milton's *Paradise Lost* in 1667.

Formation and state

According to the Big Bang theory, the Universe originated in an extremely hot and dense state about 13.8 billion years ago and began expanding rapidly. About 380,000 years later the Universe had cooled sufficiently to allow protons and electrons to combine and form hydrogen—the so-called recombination epoch. When this happened, matter and energy became decoupled, allowing photons to travel freely through space. The matter that remained following the initial expansion has since undergone gravitational collapse to create stars, galaxies and other astronomical objects, leaving behind a deep vacuum that forms what is now called outer space.

As light has a finite velocity, this theory also constrains the size of the directly observable Universe. This leaves open the question as to whether the Universe is finite or infinite.

The present day shape of the Universe has been determined from measurements of the cosmic microwave background using satellites like the Wilkinson Microwave Anisotropy Probe. These observations indicate that the observable Universe is flat, meaning that photons on parallel paths at one point will remain parallel as they travel through space to the limit of the observable Universe, except for local gravity. The flat Universe, combined with the measured mass density of the Universe and the accelerating expansion of the Universe, indicates that space has a non-zero vacuum energy, which is called dark energy.

Estimates put the average energy density of the Universe at the equivalent of 5.9 protons per cubic meter, including dark energy, dark matter, and baryonic matter (ordinary matter composed of atoms). The atoms account for only 4.6% of the total energy density, or a density of one proton per four cubic meters. The density of the Universe, however, is clearly not uniform; it ranges from relatively high density in galaxies—including very high density in structures within galaxies, such as planets, stars, and black holes—to conditions in vast voids that have much lower density, at least in terms of visible matter. Unlike the matter and dark matter, the dark energy seems not to be concentrated in galaxies: although dark energy may account for a majority of the mass-energy in the Universe, dark energy's influence is 5 orders of magnitude smaller than the influence of gravity from matter and dark matter within the Milky Way.

Chapter-4

Environment

Part of the Hubble Ultra-Deep Field image showing a typical section of space containing galaxies interspersed by deep vacuum. Given the finite speed of light, this view covers the last 13 billion years of the history of outer space.

Outer space is the closest natural approximation to a perfect vacuum. It has effectively no friction, allowing stars, planets and moons to move freely along their ideal orbits. However, even the deep vacuum of intergalactic space is not devoid of matter, as it contains a few hydrogen atoms per cubic meter. By comparison, the air we breathe contains about 10²⁵ molecules per cubic meter. The sparse density of matter in outer space means that electromagnetic radiation can travel great distances without being scattered: the mean free path of a photon in intergalactic space is about 10²³ km, or 10 billion light years. In spite of this, extinction, which is the absorption and scattering of photons by dust and gas, is an important factor in galactic and intergalactic astronomy.

Stars, planets and moons retain their atmospheres by gravitational attraction. Atmospheres have no clearly delineated boundary: the density of atmospheric gas gradually decreases with distance from the object until it becomes indistinguishable from the surrounding environment. The Earth's atmospheric pressure drops to about 0.032 Pa at 100 kilometres (62 miles) of altitude, compared to 100,000 Pa for the International Union of Pure and Applied Chemistry (IUPAC) definition of standard pressure. Beyond this altitude, isotropic gas pressure rapidly becomes insignificant when compared to radiation pressure from the Sun and the dynamic pressure of the solar wind. The thermosphere in this range has large gradients of pressure, temperature and composition, and varies greatly due to space weather.

On the Earth, temperature is defined in terms of the kinetic activity of the surrounding atmosphere. However the temperature of the vacuum cannot be measured in this way. Instead, the temperature is determined by measurement of the radiation. All of the observable Universe is filled with photons that were created during the Big Bang, which is known as the cosmic microwave background radiation (CMB). (There is quite likely a correspondingly large number

of neutrinos called the cosmic neutrino background.) The current black body temperature of the background radiation is about 3 K (−270 °C; −454 °F). Some regions of outer space can contain highly energetic particles that have a much higher temperature than the CMB, such as the corona of the Sun where temperatures can range over 1.2–2.6 MK.

Outside of a protective atmosphere and magnetic field, there are few obstacles to the passage through space of energetic subatomic particles known as cosmic rays. These particles have energies ranging from about 106 eV up to an extreme 1020 eV of ultra-high-energy cosmic rays. The peak flux of cosmic rays occurs at energies of about 109 eV, with approximately 87% protons, 12% helium nuclei and 1% heavier nuclei. In the high energy range, the flux of electrons is only about 1% of that of protons. Cosmic rays can damage electronic components and pose a health threat to space travelers.

Despite the harsh environment, several life forms have been found that can withstand extreme space conditions for extended periods. Species of lichen carried on the ESA BIOPAN facility survived exposure for ten days in 2007. Seeds of *Arabidopsis thaliana* and *Nicotiana tabacum* germinated after being exposed to space for 1.5 years. A strain of *Bacillus subtilis* has survived 559 days when exposed to low-Earth orbit or a simulated martian environment. The lithopanspermia hypothesis suggests that rocks ejected into outer space from life-harboring planets may successfully transport life forms to another habitable world. A conjecture is that just such a scenario occurred early in the history of the Solar System, with potentially microorganism-bearing rocks being exchanged between Venus, Earth, and Mars.

Effect on human bodies

Because of the hazards of a vacuum, astronauts must wear a pressurized space suit while outside their spacecraft.

Sudden exposure to very low pressure, such as during a rapid decompression, can cause pulmonary barotrauma—a rupture of the lungs, due to the large pressure differential between inside and outside of the chest. Even if the victim's airway is fully open, the flow of air through the windpipe may be too slow to prevent the rupture. Rapid decompression can rupture eardrums and sinuses, bruising and blood seep can occur in soft tissues, and shock can cause an increase in oxygen consumption that leads to hypoxia.

As a consequence of rapid decompression, any oxygen dissolved in the blood will empty into the lungs to try to equalize the partial pressure gradient. Once the deoxygenated blood arrives at the brain, humans and animals will lose consciousness after a few seconds and die of hypoxia within minutes. Blood and other body fluids boil when the pressure drops below 6.3 kPa, and this condition is called ebullism. The steam may bloat the body to twice its normal size and slow circulation, but tissues are elastic and porous enough to prevent rupture. Ebullism is slowed by the pressure containment of blood vessels, so some blood remains liquid. Swelling and ebullism can be reduced by containment in a flight suit. Shuttle astronauts wear a fitted elastic garment called the Crew Altitude Protection Suit (CAPS) which prevents ebullism at pressures as low as 2 kPa. Space suits are needed at 8 km (5.0 mi) to provide enough oxygen for breathing and to prevent water loss, while above 20 km (12 mi) they are essential to prevent ebullism. Most space suits use around 30–39 kPa of pure oxygen, about the same as on the Earth's surface. This pressure is high enough to prevent ebullism, but evaporation of blood could still cause decompression sickness and gas embolisms if not managed.

Because humans are optimized for life in Earth gravity, exposure to weightlessness has been shown to have deleterious effects on the health of the human body. Initially, more than 50% of astronauts experience space motion sickness. This can cause nausea and vomiting, vertigo, headaches, lethargy, and overall malaise. The duration of space sickness varies, but it typically lasts for 1–3 days, after which the body adjusts to the new environment. Longer term exposure to weightlessness results in muscle atrophy and deterioration of the skeleton, or spaceflight osteopenia. These effects can be minimized through a regimen of exercise. Other effects include fluid redistribution, slowing of the cardiovascular system, decreased production of red blood cells, balance disorders, and a weakening of the immune system. Lesser symptoms include loss of body mass, nasal congestion, sleep disturbance, and puffiness of the face.

For long duration space travel, radiation can pose an acute health hazard. Exposure to radiation sources such as high-energy, ionizing cosmic rays can result in fatigue, nausea, vomiting, as well as damage to the immune system and changes to the white blood cell count. Over longer durations, symptoms include an increase in the risk of cancer, plus damage to the eyes, nervous system, lungs and the gastrointestinal tract. On a round-trip Mars mission lasting three years, nearly the entire body would be traversed by high energy nuclei, each of which can cause

ionization damage to cells. Fortunately, most such particles are significantly attenuated by the shielding provided by the aluminum walls of a spacecraft, and can be further diminished by water containers and other barriers. However, the impact of the cosmic rays upon the shielding produces additional radiation that can affect the crew. Further research will be needed to assess the radiation hazards and determine suitable countermeasures.

Boundary

SpaceShipOne completed the firstmanned private spaceflight in 2004, reaching an altitude of 100.124 km (62.214 mi).

There is no clear boundary between Earth's atmosphere and space, as the density of the atmosphere gradually decreases as the altitude increases. There are several standard boundary designations, namely:

- The Fédération Aéronautique Internationale has established the Kármán line at an altitude of 100 km (62 mi) as a working definition for the boundary between aeronautics and astronautics. This is used because at an altitude of about 100 km (62 mi), as Theodore von Kármán calculated, a vehicle would have to travel faster than orbital velocity in order to derive sufficient aerodynamic lift from the atmosphere to support itself.
- The United States designates people who travel above an altitude of 50 miles (80 km) as astronauts.
- NASA's mission control uses 76 mi (122 km) as their re-entry altitude (termed the Entry Interface), which roughly marks the boundary where atmospheric drag becomes noticeable (depending on the ballistic coefficient of the vehicle), thus leading shuttles to switch from steering with thrusters to maneuvering with air surfaces.

In 2009, scientists at the University of Calgary reported detailed measurements with a Supra-Thermal Ion Imager (an instrument that measures the direction and speed of ions), which allowed them to establish a boundary at 118 km (73 mi) above Earth. The boundary represents the midpoint of a gradual transition over tens of kilometers from the relatively gentle winds of the Earth's atmosphere to the more violent flows of charged particles in space, which can reach speeds well over 268 m/s (600 mph).

The altitude where the atmospheric pressure matches the vapor pressure of water at the temperature of the human body is called the Armstrong line, named after American physician Harry G. Armstrong. Located at an altitude of around 19.14 km (11.89 mi), this is the height at which water in the blood stream changes phase from liquid to gas; in other words, the blood begins to boil. Hence, at this altitude the human body requires a pressure suit, or a pressurized capsule, to survive. The region between the Armstrong line and the Karman line is sometimes termed near space.

Legal status

2008 launch of the SM-3 missile used to destroy American spy satellite USA-193

The Outer Space Treaty provides the basic framework for international space law. It covers the legal use of outer space by nation states, and includes in its definition of outer space the Moon and other celestial bodies. The treaty states that outer space is free for all nation states to explore and is not subject to claims of national sovereignty. It also prohibits the deployment of nuclear weapons in outer space. The treaty was passed by the United Nations General Assembly in 1963 and signed in 1967 by the USSR, the United States of America and the United Kingdom. As of January 1, 2008 the treaty has been ratified by 98 states and signed by an additional 27 states.

Beginning in 1958, outer space has been the subject of multiple resolutions by the United Nations General Assembly. Of these, more than 50 have been concerning the international cooperation in the peaceful uses of outer space and preventing an arms race in space. Four additional space law treaties have been negotiated and drafted by the UN's Committee on the Peaceful Uses of Outer Space. Still, there remains no legal prohibition against deploying conventional weapons in space, and anti-satellite weapons have been successfully tested by the US, USSR and China. The 1979 Moon Treaty turned the jurisdiction of all heavenly bodies (including the orbits around such bodies) over to the international community. However, this treaty has not been ratified by any nation that currently practices manned spaceflight.

In 1976 eight equatorial states (Ecuador, Colombia, Brazil, Congo, Zaire, Uganda, Kenya, and Indonesia) met in Bogotá, Colombia. They made the "Declaration of the First Meeting of Equatorial Countries," also known as "the Bogotá Declaration", where they made a claim to

control the segment of the geosynchronous orbital path corresponding to each country. These claims are not internationally accepted.

Earth orbit

A spacecraft enters orbit when it has enough horizontal velocity for its centripetal acceleration due to gravity to be less than or equal to the centrifugal acceleration due to the horizontal component of its velocity. For a low Earth orbit, this velocity is about 7,800 m/s (28,100 km/h; 17,400 mph); by contrast, the fastest manned airplane speed ever achieved (excluding speeds achieved by deorbiting spacecraft) was 2,200 m/s (7,900 km/h; 4,900 mph) in 1967 by the North American X-15.

To achieve an orbit, a spacecraft must travel faster than a sub-orbital spaceflight. The energy required to reach Earth orbital velocity at an altitude of 600 km (370 mi) is about 36 MJ/kg, which is six times the energy needed merely to climb to the corresponding altitude. Spacecraft with a perigee below about 2,000 km (1,200 mi) are subject to drag from the Earth's atmosphere, which will cause the orbital altitude to decrease. The rate of orbital decay depends on the satellite's cross-sectional area and mass, as well as variations in the air density of the upper atmosphere. Below about 300 km (190 mi), decay becomes more rapid with lifetimes measured in days. Once a satellite descends to 180 km (110 mi), it will start to burn up in the atmosphere. The escape velocity required to pull free of Earth's gravitational field altogether and move into interplanetary space is about 11,200 m/s (40,300 km/h; 25,100 mph).

Earth's gravity reaches out far past the Van Allen radiation belt and keeps the Moon in orbit at an average distance of 384,403 km (238,857 mi). The region of space where the gravity of a planet tends to dominate the motion of objects in the presence of other perturbing bodies (such as another planet) is known as the Hill sphere. For Earth, this sphere has a radius of about 1,500,000 km (930,000 mi).

Regions

Space is a partial vacuum: its different regions are defined by the various atmospheres and "winds" that dominate within them, and extend to the point at which those winds give way to those beyond. Geospace extends from Earth's atmosphere to the outer reaches of Earth's

magnetic field, whereupon it gives way to the solar wind of interplanetary space. Interplanetary space extends to the heliopause, whereupon the solar wind gives way to the winds of the interstellar medium. Interstellar space then continues to the edges of the galaxy, where it fades into the intergalactic void.

Chapter-5

Geospace

Aurora australis observed from the Space Shuttle Discovery, on STS-39, May 1991 (orbital altitude: 260 km)

Geospace is the region of outer space near the Earth. Geospace includes the upper region of the atmosphere and the magnetosphere. The Van Allen radiation belt lies within the geospace. The outer boundary of geospace is the magnetopause, which forms an interface between the planet's magnetosphere and the solar wind. The inner boundary is the ionosphere. As the physical properties and behavior of near Earth space is affected by the behavior of the Sun and space weather, the field of geospace is interlinked with heliophysics; the study of the Sun and its impact on the Solar System planets.

The volume of geospace defined by the magnetopause is compacted in the direction of the Sun by the pressure of the solar wind, giving it a typical subsolar distance of 10 Earth radii from the center of the planet. However, the tail can extend outward to more than 100–200 Earth radii. The Moon passes through the geospace tail during roughly four days each month, during which time the surface is shielded from the solar wind.

Geospace is populated by electrically charged particles at very low densities, the motions of which are controlled by the Earth's magnetic field. These plasmas form a medium from which storm-like disturbances powered by the solar wind can drive electrical currents into the Earth's upper atmosphere. During geomagnetic storms two regions of geospace, the radiation belts and the ionosphere, can become strongly disturbed. These storms increase fluxes of energetic electrons that can permanently damage satellite electronics, disrupting telecommunications and GPS technologies, and can also be a hazard to astronauts, even in low Earth orbit. They also create aurorae seen near the magnetic poles.

Although it meets the definition of outer space, the atmospheric density within the first few hundred kilometers above the Kármán line is still sufficient to produce significant drag on satellites. [This region contains material left over from previous manned and unmanned

launches that are a potential hazard to spacecraft. Some of this debris re-enters Earth's atmosphere periodically.

Cislunar space

The region outside Earth's atmosphere and extending out to just beyond the Moon's orbit, including the Lagrangian points, is sometimes referred to as cis-lunar space.

Interplanetary space

The sparse plasma (blue) and dust (white) in the tail of comet Hale–Bopp are being shaped by pressure from solar radiation and the solar wind, respectively

Interplanetary space, the space around the Sun and planets of the Solar System, is the region dominated by the interplanetary medium, which extends out to the heliopause where the influence of the galactic environment starts to dominate over the magnetic field and particle flux from the Sun. Interplanetary space is defined by the solar wind, a continuous stream of charged particles emanating from the Sun that creates a very tenuous atmosphere (the heliosphere) for billions of miles into space. This wind has a particle density of 5–10 protons/cm³ and is moving at a velocity of 350–400 km/s (780,000–890,000 mph). The distance and strength of the heliopause varies depending on the activity level of the solar wind. The discovery since 1995 of extrasolar planets means that other stars must possess their own interplanetary media.

The volume of interplanetary space is a nearly total vacuum, with a mean free path of about one astronomical unit at the orbital distance of the Earth. However, this space is not completely empty, and is sparsely filled with cosmic rays, which include ionized atomic nuclei and various subatomic particles. There is also gas, plasma and dust, small meteors, and several dozen types of organic molecules discovered to date by microwave spectroscopy.

Interplanetary space contains the magnetic field generated by the Sun. There are also magnetospheres generated by planets such as Jupiter, Saturn, Mercury and the Earth that have their own magnetic fields. These are shaped by the influence of the solar wind into the approximation of a teardrop shape, with the long tail extending outward behind the planet. These magnetic fields can trap particles from the solar wind and other sources, creating belts of

magnetic particles such as the Van Allen radiation belt. Planets without magnetic fields, such as Mars, have their atmospheres gradually eroded by the solar wind.

Interstellar space

Bow shock formed by the magnetosphere of the young star LL Orionis (center) as it collides with the Orion Nebula flow

Interstellar space is the physical space within a galaxy not occupied by stars or their planetary systems. The contents of interstellar space are called the interstellar medium. The average density of matter in this region is about 10^6 particles per m^3 , but this varies from a low of about $10^4 - 10^5$ in regions of sparse matter up to about $10^8 - 10^{10}$ in dark nebula. Regions of star formation may reach $10^{12} - 10^{14}$ particles per m^3 (as a comparison, Earth's atmospheric density at sea level is on the order of 10^{25} particles per m^3). Nearly 70% of the mass of the interstellar medium consists of lone hydrogen atoms. This is enriched with helium atoms as well as trace amounts of heavier atoms formed through stellar nucleosynthesis. These atoms can be ejected into the interstellar medium by stellar winds, or when evolved stars begin to shed their outer envelopes such as during the formation of a planetary nebula. The cataclysmic explosion of a supernova will generate an expanding shock wave consisting of ejected materials.

A number of molecules exist in interstellar space, as can tiny, $0.1 \mu m$ dust particles. The tally of molecules discovered through radio astronomy is steadily increasing at the rate of about four new species per year. Large regions of higher density matter known as molecular clouds allow chemical reactions to occur, including the formation of organic polyatomic species. Much of this chemistry is driven by collisions. Energetic cosmic rays penetrate the cold, dense clouds and ionize hydrogen and helium, resulting, for example, in the trihydrogen cation. An ionized helium atom can then split relatively abundant carbon monoxide to produce ionized carbon, which in turn can lead to organic chemical reactions.

The local interstellar medium is a region of space within 100 parsecs (pc) of the Sun, which is of interest both for its proximity and for its interaction with the Solar System. This volume nearly coincides with a region of space known as the Local Bubble, which is characterized by a lack of dense, cold clouds. It forms a cavity in the Orion Arm of the Milky Way galaxy, with dense molecular clouds lying along the borders, such as those in the constellations of Ophiuchus and

Taurus. (The actual distance to the border of this cavity varies from 60 to 250 pc or more.) This volume contains about 10⁴–10⁵ stars and the local interstellar gas counterbalances the astrospheres that surround these stars, with the volume of each sphere varying depending on the local density of the interstellar medium. The Local Bubble contains dozens of warm interstellar clouds with temperatures of up to 7,000 K and radii of 0.5–5 pc.

When stars are moving at a sufficiently high peculiar velocity, their astrosphere can generate a bow shock as it collides with the interstellar medium. For decades it was assumed that the Sun had a bow shock. In 2012, data from Interstellar Boundary Explorer (IBEX) and Voyagers showed that the Sun's bow shock does not exist. Instead, these authors argue that a subsonic bow wave defines the transition from the solar wind flow to the interstellar medium. A bow shock is the third boundary of an astrosphere after the termination shock and the astropause (called the heliopause in the Solar System).

Intergalactic space

A star forming region in the Large Magellanic Cloud, perhaps the closest Galaxy to Earth's Milky Way

Intergalactic space is the physical space between galaxies. The huge spaces between galaxy clusters are called the voids. Surrounding and stretching between galaxies, there is a rarefied plasma that is organized in a galactic filamentary structure. This material is called the intergalactic medium (IGM). The density of the IGM is 5–200 times the average density of the Universe. It consists mostly of ionized hydrogen; i.e. a plasma consisting of equal numbers of electrons and protons. As gas falls into the intergalactic medium from the voids, it heats up to temperatures of 10⁵ K to 10⁷ K, which is high enough so that collisions between atoms have enough energy to cause the bound electrons to escape from the hydrogen nuclei; this is why the IGM is ionized. At these temperatures, it is called the warm–hot intergalactic medium (WHIM). (Although the gas is very hot by terrestrial standards, 10⁵ K is often called "warm" in astrophysics.) Computer simulations and observations indicate that up to half of the atomic matter in the Universe might exist in this warm-hot, rarefied state. When gas falls from the filamentary structures of the WHIM into the galaxy clusters at the intersections of the cosmic

filaments, it can heat up even more, reaching temperatures of 108 K and above in the so-called intracluster medium.

Exploration and applications

The first image taken of the entire Earth by astronauts was shot during the Apollo 8 mission

For the majority of human history, space was explored by remote observation; initially with the unaided eye and then with the telescope. Prior to the advent of reliable rocket technology, the closest that humans had come to reaching outer space was through the use of balloon flights. In 1935, the U.S. Explorer II manned balloon flight had reached an altitude of 22 km (14 mi). This was greatly exceeded in 1942 when the third launch of the German A-4 rocket climbed to an altitude of about 80 km (50 mi). In 1957, the unmanned satellite Sputnik 1 was launched by a Russian R-7 rocket, achieving Earth orbit at an altitude of 215–939 kilometres (134–583 mi).[[] This was followed by the first human spaceflight in 1961, when Yuri Gagarin was sent into orbit on Vostok 1. The first humans to escape Earth orbit were Frank Borman, Jim Lovell and William Anders in 1968 on board the U.S. Apollo 8, which achieved lunar orbit and reached a maximum distance of 377,349 km (234,474 mi) from the Earth.

The first spacecraft to reach escape velocity was the Soviet Luna 1, which performed a fly-by of the Moon in 1959.[[] In 1961, Venera 1 became the first planetary probe. It revealed the presence of the solar wind and performed the first fly-by of the planet Venus, although contact was lost before reaching Venus. The first successful planetary mission was the Mariner 2 fly-by of Venus in 1962. The first spacecraft to perform a fly-by of Mars was Mariner 4, which reached the planet in 1964. Since that time, unmanned spacecraft have successfully examined each of the Solar System's planets, as well their moons and many minor planets and comets. They remain a fundamental tool for the exploration of outer space, as well as observation of the Earth. In August 2012, Voyager 1 became the first man-made object to leave the Solar System and enter interstellar space.

The absence of air makes outer space (and the surface of the Moon) ideal locations for astronomy at all wavelengths of the electromagnetic spectrum, as evidenced by the spectacular pictures sent back by the Hubble Space Telescope, allowing light from about 13.8 billion years ago—almost to the time of the Big Bang—to be observed. However, not every location in space

is ideal for a telescope. The interplanetary zodiacal dust emits a diffuse near-infrared radiation that can mask the emission of faint sources such as extrasolar planets. Moving an infrared telescope out past the dust will increase the effectiveness of the instrument. Likewise, a site like the Daedalus crater on the far side of the Moon could shield a radio telescope from the radio frequency interference that hampers Earth-based observations.

Unmanned spacecraft in Earth orbit have become an essential technology of modern civilization. They allow direct monitoring of weather conditions, relay long-range communications including telephone calls and television signals, provide a means of precise navigation, and allow remote sensing of the Earth. The latter role serves a wide variety of purposes, including tracking soil moisture for agriculture, prediction of water outflow from seasonal snow packs, detection of diseases in plants and trees, and surveillance of military activities.

The deep vacuum of space could make it an attractive environment for certain industrial processes, such as those that require ultraclean surfaces. However, like asteroid mining, space manufacturing requires a significant investment with little prospect of an immediate return.

Chapter-6

Upper Class

The upper class in modern societies is often considered by middle class social scientists and their adherents to be the social class composed of the wealthiest members of society, who also wield the greatest political power. According to this view, the upper class is generally contained within the wealthiest 1-2% of the population, and is distinguished by immense wealth (in the form of estates) which is passed on from generation to generation. This popular definition is at odds, however, with how the upper class views itself: as members of families that have been long distinguished not merely by wealth or fame which are ostensibly available to all in a democratic society but rather by generations of leadership in public service, education, charity, the military, and the arts. Because the upper classes of a society may no longer rule the society in which they are living they are often referred to as the old upper classes and they are often culturally distinct from the newly rich middle classes that tend to dominate public life in modern social democracies. According to the latter view held by the traditional upper classes no amount of individual wealth or fame would make a person from an undistinguished background into a member of the upper class as one must be born into a family of that class and raised in a particular manner so as to understand and share upper class values, traditions, and cultural norms. The term is often used in conjunction with the terms "middle class" and "working class" as part of a tripartite model of social stratification. To illustrate, a contemporary member of the American upper class is well educated (privately) and may be well off financially and belong to a family that has produced Presidents of Harvard and Yale, Generals and Colonels, Governors, Senators and U.S. Congressmen and he will likely see numerous local schools, colleges, streets, skyscrapers, and monuments named after his ancestors as he goes about his daily routine in a major old American city but he will not be as politically influential as Barack Obama (upper middle class) or as rich as billionaire George Soros (upper middle class). Obama and Soros are examples of members of the current ruling class who are not members of the upper class as they would be the first to understand and acknowledge. In modern social democracies the ruling class is typically composed of people of middle class origin.

Historical meaning

Historically in some cultures, members of an upper class often did not have to work for a living, as they were supported by earned or inherited investments (often real estate), although members of the upper class may have had less actual money than merchants. Upper-class status commonly derived from the social position of one's family and not from one's own achievements or wealth. Much of the population that composed the upper class consisted of aristocrats, ruling families, titled people, and religious hierarchs. These people were usually born into their status and historically there was not much movement across class boundaries. This is to say that it was much harder for an individual to move up in class simply because of the structure of society.

Ball in colonial Chile by Pedro Subercaseaux. In Spain's American colonies the upper classes were made up of Europeans and American born Spaniards and were heavily influenced by European trends.

In many countries the term "upper class" was intimately associated with hereditary land ownership. Political power was often in the hands of the landowners in many pre-industrial societies despite there being no legal barriers to land ownership for other social classes. Upper-class landowners in Europe were often also members of the titled nobility, though not necessarily: the prevalence of titles of nobility varied widely from country to country. Some upper classes were almost entirely untitled, for example, the Szlachta of the Polish-Lithuanian Commonwealth.

British Isles and Colonies

Harrods in 1909

In England, Wales, Scotland, and Ireland, the "upper class" traditionally comprised the landed gentry and the aristocracy of noble families with hereditary titles. The vast majority of post-medieval aristocratic families originated in the merchant class and were ennobled between the 14th and 19th centuries while intermarrying with the old nobility and gentry. Since the Second World War, the term has come to encompass rich and powerful members of the managerial and professional classes as well. Members of the English gentry organized the colonization of

Virginia and New England and ruled these colonies for generations forming the foundation of the American upper class or East Coast Elite.

United States

First edition dust cover of Edith Wharton's 1920 Pulitzer Prize-winning novel *The Age of Innocence*, a story set in upper-class New York City in the 1870s

In the United States the upper class, as distinguished from the merely rich, is often considered to consist of those families that have for many generations enjoyed top social status based on their leadership in society and their distinctive culture derived from their Upper class ancestors in the colonial gentry . In this respect the US differs little from countries such as the UK where membership of the 'upper class' is also dependent on other factors. In the United Kingdom it has been said that 'class' is relative to 'where you have come from', similar to the United States where 'class' is more defined by 'who' as opposed to 'how much; i.e. one is born into the upper class in the UK and the US.. The American upper class is estimated to constitute less than 1% of the population, while the remaining 99% of the population lies either within the middle class or working class .The main distinguishing feature of upper class is its ability to derive enormous incomes from wealth through techniques such as money management and investing, rather than engaging in wage-labor or salaried employment. Successful entrepreneurs, CEOs, politicians, investment bankers, venture capitalists, stockbrokers, heirs to fortunes, some lawyers, and top flight physicians and celebrities are considered members of this class by contemporary sociologists, such as James Henslin or Dennis Gilbert. There may be prestige differences between different upper-class households. An A-list actor, for example, might not be accorded as much prestige as a former U.S. President, yet all members of this class are so influential and wealthy as to be considered members of the upper class.

“ Upper-class families... dominate corporate America and have a disproportionate influence over the nation's political, educational, religious, and other institutions. Of all social classes, members of the upper class also have a strong sense of solidarity and 'consciousness of kind' that stretches across the nation and even the globe." -William Thompson & Joseph Hickey, *Society in Focus*, 2005.

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Since the 1970s income inequality in the United States has been increasing, with the top 1% experiencing significantly larger gains in income than the rest of society. Social scientists (such as Alan Greenspan) see it as a problem for society, with Greenspan calling it a "very disturbing trend."

According to the book *Who Rules America?*, by William Domhoff, the distribution of wealth in America is the primary highlight of the influence of the upper class. The top 1% of Americans own around 34% of the wealth in the U.S. while the bottom 80% own only approximately 16% of the wealth. This large disparity displays the unequal distribution of wealth in America in absolute terms.

Education

Members of the upper class in American society are typically knowledgeable and have been educated in "elite" settings. Wealthy parents go above and beyond to ensure their children will also be a member of the upper class when they grow up. Upper class parents enroll their children in prestigious preschools and elementary schools leading to private middle schools and high schools, and finally Ivy League colleges. One of the many advantages of attending these prestigious schools is the quality of the teaching. Along with schools such as Ivy League colleges, upper class members have traditionally joined exclusive clubs or fraternities. Students at Yale University created the Skull and Bones social club. The Skull and Bones was a secret society that had members such as George H. W. Bush and John Kerry. These members obtained valuable social capital by joining the club.

Power (social and political)

In social science and politics, power is the ability to influence the behavior of people. The term authority is often used for power perceived as legitimate by the social structure. Power can be seen as evil or unjust, but the exercise of power is accepted as endemic to humans as social beings. In the corporate environment, power is often expressed as upward or downward. With downward power, a company's superior influences subordinates. When a company exerts upward power, it is the subordinates who influence the decisions of the leader (Greiner & Schein, 1988).

The use of power need not involve coercion (force or the threat of force). At one extreme, it more closely resembles what everyday English-speakers call influence, although some authors make a distinction between power and influence – the means by which power is used (Handy, C. 1993 Understanding Organisations).

Much of the recent sociological debate on power revolves around the issue of the enabling nature of power. A comprehensive account of power can be found in Steven Lukes Power: A Radical View where he discusses the three dimensions of power. Thus, power can be seen as various forms of constraint on human action, but also as that which makes action possible. French philosopher Michel Foucault (1926–1984) saw power as "a complex strategic situation in a given society social setting". Being deeply structural, his concept involves both constraint and enablement. For a purely enabling (and voluntaristic) concept of power see the works of Anthony Giddens.

Sources

Power may be held through:

- Authority
- Delegated authority (for example in the democratic process)
- Social class (material wealth can equal power)
- Resource currency (material items such as money, property, food)
- Personal or group charisma (including public opinion)
- Ascribed power (acting on perceived or assumed abilities, whether these bear testing or not)
- Expertise (ability, skills) (the power of medicine to bring about health; another famous example would be "in the land of the blind, the one-eyed man is king" – Desiderius Erasmus)
- Persuasion (direct, indirect, or subliminal)

- Knowledge (granted or withheld, shared or kept secret)
- Force (law) (violence, military might, coercion).
- Moral persuasion (including religion)
- Operation of group dynamics (such as public relations)
- Social influence of tradition (compare ascribed power)

JK Galbraith summarizes the types of power as being "Coercive" (based on force), "Compensatory" (through the use of various resources) or "Conditioned" (the result of persuasion), and their sources as "Personality" (individuals), "Property" (their material resources) and "Organizational" (whoever sits at the top of an organisational power structure). (Galbraith, *The Anatomy of Power*)

Erica Grier, a professor of Psychology at the University of Harvard, categorized power into the following possible sub-headings:

- Aggressive (forceful)
- Manipulative (persuasion)

Tactics

People use power more than rewards, threats, and information to influence people. In everyday situations people use a variety of power tactics to push or prompt people into particular action. There are plenty of examples of power tactics that are quite common and employed every day. Some of these tactics include bullying, collaboration, complaining, criticizing, demanding, disengaging, evading, humor, inspiring, manipulating, negotiating, socializing, and supplicating. These power tactics can be classified along three different dimensions: softness, rationality, and laterality.

Soft and hard

Soft tactics take advantage of the relationship between person and the target. They are more indirect and interpersonal (e.g., collaboration, socializing). Conversely, hard tactics are harsh,

forceful, direct, and rely on concrete outcomes. However, they are not more powerful than soft tactics. In many circumstances, fear of social exclusion can be a much stronger motivator than some kind of physical punishment.

Rational and nonrational

Rational tactics of influence make use of reasoning, logic, and sound judgment, whereas nonrational tactics rely on emotionality and misinformation. Examples of each include bargaining and persuasion, and evasion and put downs, respectively.

Unilateral and bilateral

Bilateral tactics, such as collaboration and negotiation, involve reciprocity on the part of both the person influencing and their target. Unilateral tactics, on the other hand, are enacted without any participation on the part of the target. These tactics include disengagement and fait accompli.

People tend to vary in their use of power tactics, with different types of people opting for different tactics. For instance, interpersonally oriented people tend to use soft and rational tactics. Machiavellians, however, tend to use nonrational tactics. Moreover, extraverts use a greater variety of power tactics than do introverts. Further, men tend to use bilateral and direct tactics, whereas women tend to use unilateral and indirect tactics. People will also choose different tactics based on the group situation, and based on who they are trying to influence. People also tend to shift from soft to hard tactics when they face resistance.

Chapter-7

Balance of Power

Because power operates both relationally and reciprocally, sociologists speak of the balance of power between parties to a relationship: all parties to all relationships have some power: the sociological examination of power concerns itself with discovering and describing the relative strengths: equal or unequal, stable or subject to periodic change. Sociologists usually analyse relationships in which the parties have relatively equal or nearly equal power in terms of constraint rather than of power. Thus 'power' has a connotation of unilateralism. If this were not so, then all relationships could be described in terms of 'power', and its meaning would be lost. Given that power is not innate and can be granted to others, to acquire power you must possess or control a form of power currency.

Psychological research

Recent experimental psychology suggests that the more power one has, the less one takes on the perspective of others, implying that the powerful have less empathy. Adam Galinsky, along with several coauthors, found that when those who are reminded of their powerlessness are instructed to draw Es on their forehead, they are 3 times more likely to draw them such that they are legible to others than those who are reminded of their power. Powerful people are also more likely to take action. In one example, powerful people turned off an irritatingly close fan twice as much as less powerful people. Researchers have documented the bystander effect: they found that powerful people are three times as likely to first offer help to a "stranger in distress".

A study involving over 50 college students suggested that those primed to feel powerful through stating 'power words' were less susceptible to external pressure, more willing to give honest feedback, and more creative.

Empathy gap

"Power is defined as a possibility to influence others."

The use of power has evolved from centuries. Gaining prestige, honor and reputation is one of the central motives of gaining power in human nature. Power also relates with empathy gap

because it limits the interpersonal relationship and compares the power differences. Having power and not having power can affect a number of psychological consequences. It leads to strategic versus social responsibilities. Research experiments were done in past, as early as 1968, to explore power conflict.

Past research

Earlier, research proposed that increased power is related to increased rewards and leads one to approach things more frequently. In contrast, decreased power is related more constraint, threat and punishment which leads one to inhibitions. It was concluded that being powerful leads one to successful outcome, develop negotiation strategies and make more self-serving offers.

Later, research proposed that differences in power lead to strategic considerations. Being strategic can also mean to defend when one is opposed or to hurt the decision maker. It was concluded that facing one with more power leads to strategic consideration whereas facing one with less power leads to a social responsibility.

Bargaining games

Bargaining games were explored in year 2003 and year 2004. These studies compared behavior done in different power given situation.

Ultimatum game

In an ultimatum game, the person in given power offers an ultimatum and the recipient would have to accept that offer or else both the proposer and the recipient will receive no reward.

Dictator game

In a dictator game, the person in given power offers a proposal and the recipient would have to accept that offer. The recipient has no choice of rejecting the offer.

Bargaining games, conclusion

The dictator game gives no power to the recipient whereas the ultimatum game gives some power to the recipient. The behavior observed was that the person offering the proposal would

act less strategically than would the one offering in the ultimatum game. Self-serving also occurred and a lot of pro-social behavior was observed.

When the counterpart recipient is completely powerless, lack of strategy, social responsibility and moral consideration is often observed from the behavior of the proposal given (the one with the power).

Power and control in abusive relationships

In abusive relationships, violence is posited to arise out of a need for power and control of one partner over the other. An abuser will use various tactics of abuse (e.g., physical, verbal, emotional, sexual or financial) in order to establish and maintain control over the partner.

Theories

Five bases of power

Social psychologists John R. P. French and Bertram Raven, in a now-classic study (1959), developed a schema of sources of power by which to analyse how power plays work (or fail to work) in a specific relationship.

According to French and Raven, power must be distinguished from influence in the following way: power is that state of affairs which holds in a given relationship, A-B, such that a given influence attempt by A over B makes A's desired change in B more likely. Conceived this way, power is fundamentally relative – it depends on the specific understandings A and B each apply to their relationship, and, interestingly, requires B's recognition of a quality in A which would motivate B to change in the way A intends. A must draw on the 'base' or combination of bases of power appropriate to the relationship, to effect the desired outcome. Drawing on the wrong power base can have unintended effects, including a reduction in A's own power.

French and Raven argue that there are five significant categories of such qualities, while not excluding other minor categories. Further bases have since been adduced – in particular by Morgan (1986: ch.6), who identifies 14, while others have suggested a simpler model for practical purposes – for example, Handy (1976), who recommends three.

Legitimate power

Also called "Positional power," it is the power of an individual because of the relative position and duties of the holder of the position within an organization. Legitimate power is formal authority delegated to the holder of the position. It is usually accompanied by various attributes of power such as uniforms, offices etc. This is the most obvious and also the most important kind of power.

Referent power

Referent power is the power or ability of individuals to attract others and build loyalty. It's based on the charisma and interpersonal skills of the power holder. A person may be admired because of specific personal trait, and this admiration creates the opportunity for interpersonal influence. Here the person under power desires to identify with these personal qualities, and gains satisfaction from being an accepted follower. Nationalism and patriotism count towards an intangible sort of referent power. For example, soldiers fight in wars to defend the honor of the country. This is the second least obvious power, but the most effective. Advertisers have long used the referent power of sports figures for products endorsements, for example. The charismatic appeal of the sports star supposedly leads to an acceptance of the endorsement, although the individual may have little real credibility outside the sports arena. Abuse is possible when someone that is likable, yet lacks integrity and honesty, rises to power, placing them in a situation to gain personal advantage at the cost of the group's position. Referent power is unstable alone, and is not enough for a leader who wants longevity and respect. When combined with other sources of power, however, it can help you achieve great success

Expert power

Expert power is an individual's power deriving from the skills or expertise of the person and the organization's needs for those skills and expertise. Unlike the others, this type of power is usually highly specific and limited to the particular area in which the expert is trained and qualified. When you have knowledge and skills that enable you to understand a situation, suggest solutions, use solid judgment, and generally outperform others, people will have reason to listen to you. When you demonstrate expertise, people tend to trust you and respect what you say. As a subject

matter expert, your ideas will have more value, and others will look to you for leadership in that area.

Reward power

Reward power depends on the ability of the power wielder to confer valued material rewards, it refers to the degree to which the individual can give others a reward of some kind such as benefits, time off, desired gifts, promotions or increases in pay or responsibility. This power is obvious but also ineffective if abused. People who abuse reward power can become pushy or become reprimanded for being too forthcoming or 'moving things too quickly'. If others expect that you'll reward them for doing what you want, there's a high probability that they'll do it. The problem with this basis of power is that you may not have as much control over rewards as you need. Supervisors probably don't have complete control over salary increases, and managers often can't control promotions all by themselves. And even a CEO needs permission from the board of directors for some actions. So when you use up available rewards, or the rewards don't have enough perceived value to others, your power weakens. (One of the frustrations of using rewards is that they often need to be bigger each time if they're to have the same motivational impact. Even then, if rewards are given frequently, people can become satiated by the reward, such that it loses its effectiveness.)

Coercive power

Coercive power is the application of negative influences. It includes the ability to demote or to withhold other rewards. The desire for valued rewards or the fear of having them withheld that ensures the obedience of those under power. Coercive power tends to be the most obvious but least effective form of power as it builds resentment and resistance from the people who experience it. Threats and punishment are common tools of coercion. Implying or threatening that someone will be fired, demoted, denied privileges, or given undesirable assignments – these are examples of using coercive power. Extensive use of coercive power is rarely appropriate in an organizational setting, and relying on these forms of power alone will result in a very cold, impoverished style of leadership.

Rational choice framework

Game theory, with its foundations in the Walrasian theory of rational choice, is increasingly used in various disciplines to help analyze power relationships. One rational choice definition of power is given by Keith Dowding in his book *Power*.

In rational choice theory, human individuals or groups can be modelled as 'actors' who choose from a 'choice set' of possible actions in order to try to achieve desired outcomes. An actor's 'incentive structure' comprises (its beliefs about) the costs associated with different actions in the choice set, and the likelihoods that different actions will lead to desired outcomes.

In this setting we can differentiate between:

1. outcome power – the ability of an actor to bring about or help bring about outcomes;
2. social power – the ability of an actor to change the incentive structures of other actors in order to bring about outcomes.

This framework can be used to model a wide range of social interactions where actors have the ability to exert power over others. For example a 'powerful' actor can take options away from another's choice set; can change the relative costs of actions; can change the likelihood that a given action will lead to a given outcome; or might simply change the other's beliefs about its incentive structure.

As with other models of power, this framework is neutral as to the use of 'coercion'. For example: a threat of violence can change the likely costs and benefits of different actions; so can a financial penalty in a 'voluntarily agreed' contract, or indeed a friendly offer.

Marxism

In the Marxist tradition, the Italian writer Antonio Gramsci elaborated the role of ideology in creating a cultural hegemony, which becomes a means of bolstering the power of capitalism and of the nation-state. Drawing on Niccolò Machiavelli in *The Prince*, and trying to understand why there had been no Communist revolution in Western Europe, whilst there had been in Russia, Gramsci conceptualised this hegemony as a centaur, consisting of two halves. The back end, the beast, represented the more classic, material image of power, power through coercion, through

brute force, be it physical or economic. But the capitalist hegemony, he argued, depended even more strongly on the front end, the human face, which projected power through 'consent'. In Russia, this power was lacking, allowing for a revolution. However, in Western Europe, specifically in Italy, capitalism had succeeded in exercising consensual power, convincing the working classes that their interests were the same as those of capitalists. In this way revolution had been avoided.

While Gramsci stresses the significance of ideology in power structures, Marxist-feminist writers such as Michele Barrett stress the role of ideologies in extolling the virtues of family life. The classic argument to illustrate this point of view is the use of women as a 'reserve army of labour'. In wartime it is accepted that women perform masculine tasks, while after the war the roles are easily reversed. Therefore, according to Barrett, the destruction of capitalist economic relations is necessary but not sufficient for the liberation of women.

Tarnow

Tarnow considers what power hijackers have over air plane passengers and draws similarities with power in the military. He shows that power over an individual can be amplified by the presence of a group. If the group conforms to the leader's commands, the leader's power over an individual is greatly enhanced while if the group does not conform the leader's power over an individual is nil.

Lukes

In *Power: A radical view* (1974) Steven Lukes outlines two dimensions through which power had been theorised in the earlier part of the twentieth century (dimensions 1 and 2 below) which he critiqued as being limited to those forms of power that could be seen. To these he added a third 'critical' dimension which built upon insights from Gramsci and Althusser.

Foucault

For Foucault real power will always rely on the ignorance of its agents with the discovery and emergence of Biopower, and Biopolitics a biological and political technology of its population, highlights this fact no single human, group nor single actor runs the dispositif (machine or apparatus) but power is disbursed through the apparatus as efficiently and silently as possible

ensuring its agents do whatever is necessary it is because of this action that power is unlikely to be detected so remains elusive to 'rational' investigation. Foucault quotes a text reputedly written by political economist Jean Baptiste Antoine Auget de Montyon, entitled *Recherches et considérations sur la population de la France*(1778), but however, turns out to be written by his secretary Jean-Baptiste Moheau (1745–1794) and by emphasizing Biologist Jean-Baptiste Lamarck who constantly refers to *Milieus* as a plural adjective and sees into the milieu as an expression as nothing more than water air and light confirming the genus within the milieu, in this case the human species, relates to a function of the population and its social and political interaction in which both form an artificial and natural milieu. This milieu appears as a target of intervention for power according to Foucault which is radically different from the previous notions on sovereignty, territory and disciplinary space inter woven into from a social and political relations which function as a species (biological species).

Clegg

Stewart Clegg proposes another three dimensional model with his "circuits of power" theory. This model likens the production and organizing of power to an electric circuit board consisting of three distinct interacting circuits: episodic, dispositional, and facilitative. These circuits operate at three levels, two are macro and one is micro. The episodic circuit is the micro level and is constituted of irregular exercise of power as agents address feelings, communication, conflict, and resistance in day-to-day interrelations. The outcomes of the episodic circuit are both positive and negative. The dispositional circuit is constituted of macro level rules of practice and socially constructed meanings that inform member relations and legitimate authority. The facilitative circuit is constituted of macro level technology, environmental contingencies, job design, and networks, which empower or disempower and thus punish or reward, agency in the episodic circuit. All three independent circuits interact at “obligatory passage points” which are channels for empowerment or disempowerment.

Toffler

Alvin Toffler's *Powershift* argues that the three main kinds of power are violence, wealth, and knowledge with other kinds of power being variations of these three (typically knowledge). Each successive kind of power represents a more flexible kind of power. Violence can only be used

negatively, to punish. Wealth can be used both negatively (by withholding money) and positively (by advancing/spending money). Knowledge can be used in these ways but, additionally, can be used in a transformative way. Such examples are, sharing knowledge on agriculture to ensure that everyone is capable of supplying himself and his family of food; Allied nations with a shared identity forming with the spread of religious or political philosophies, or one can use knowledge as a tactical/strategic superiority in Intelligence (information gathering).

Toffler argues that the very nature of power is currently shifting. Throughout history, power has often shifted from one group to another; however, at this time, the dominant form of power is changing. During the Industrial Revolution, power shifted from a nobility acting primarily through violence to industrialists and financiers acting through wealth. Of course, the nobility used wealth just as the industrial elite used violence, but the dominant form of power shifted from violence to wealth. Today, a The Third Wave (Toffler) of shifting power is taking place with wealth being overtaken by knowledge.

Other theories

- Thomas Hobbes (1588–1679) defined power as a man's "present means, to obtain some future apparent good" (Leviathan, Ch. 10).
- The thought of Friedrich Nietzsche underlies much 20th century analysis of power. Nietzsche disseminated ideas on the "will to power," which he saw as the domination of other humans as much as the exercise of control over one's environment.
- Some schools of psychology, notably that associated with Alfred Adler, place power dynamics at the core of their theory (where orthodox Freudians might place sexuality).

Chapter-8

Social Stratification

In sociology, social stratification is a concept involving the "classification of people into groups based on shared socio-economic conditions ... a relational set of inequalities with economic, social, political and ideological dimensions." When differences lead to greater status, power or privilege for some groups over the other it is called social stratification. It is a system by which society ranks categories of people, hierarchy. Social stratification is based on four basic principles: (1) Social stratification is a trait of society, not simply a reflection of individual differences; (2) Social stratification carries over from generation to generation; (3) Social stratification is universal but variable; (4) Social stratification involves not just inequality but beliefs as well.

In modern Western societies, stratification is broadly organized into three main layers: upper class, middle class, and lower class. Each of these classes can be further subdivided into smaller classes (e.g. occupational).

These categories are not particular to state-based societies as distinguished from feudal societies composed of nobility-to-peasant relations. Stratification may also be defined by kinship ties or castes. For Max Weber, social class pertaining broadly to material wealth is distinguished from status class which is based on such variables as honor, prestige and religious affiliation. Talcott Parsons argued that the forces of societal differentiation and the following pattern of institutionalized individualization would strongly diminish the role of class (as a major stratification factor) as social evolution went along. It is debatable whether the earliest hunter-gatherer groups may be defined as 'stratified', or if such differentials began with agriculture and broad acts of exchange between groups. One of the ongoing issues in determining social stratification arises from the point that status inequalities between individuals are common, so it becomes a quantitative issue to determine how much inequality qualifies as stratification.

Sociological overview

The concept of social stratification is interpreted differently by the various theoretical perspectives of sociology. Proponents of action theory have suggested that since social

stratification is commonly found in developed societies, hierarchy may be necessary in order to stabilize social structure. Talcott Parsons, an American sociologist, asserted that stability and social order are regulated, in part, by universal value although universal values were not identical with "consensus" but could as well be the impetus for ardent conflict as it had been multiple times through history. Parsons never claimed that universal values in and by themselves "satisfied" the functional prerequisites of a society, indeed, the constitution of society was a much more complicated codification of emerging historical factors. The so-called conflict theories, such as Marxism, point to the inaccessibility of resources and lack of social mobility found in stratified societies. Many sociological theorists have criticized the extent to which the working classes are unlikely to advance socioeconomically; the wealthy tend to hold political power which they use to exploit the proletariat intergenerationally. Theorists such as Ralf Dahrendorf, however, have noted the tendency toward an enlarged middle-class in modern Western societies due to the necessity of an educated workforce in technological and service economies. Various social and political perspectives concerning globalization, such as dependency theory, suggest that these effects are due to the change of workers to the third world.

Karl Marx

In Marxist theory, the capitalist mode of production consists of two main economic parts: the substructure and the superstructure. Marx saw classes as defined by people's relationship to the means of production in two basic ways: either they own productive property or labour for others. The base comprehends the relations of production—employer—employee work conditions, the technical division of labour, and property relations—into which people enter to produce the necessities and amenities of life. In the capitalist system, the ruling classes own the means of production, which essentially includes the working class itself as they only have their own labor power ('wage labor') to offer in order to survive. These relations fundamentally determine the ideas and philosophies of a society, constituting the superstructure. A temporary status quo is achieved by various methods of social control employed, consciously or unconsciously, by the bourgeoisie in the course of various aspects of social life. Through the ideology of the ruling class, false consciousness is promoted both through ostensibly political and non-political institutions, but also through the arts and other elements of culture. Marx

believed the capitalist mode would eventually give way, through its own internal conflict, to revolutionary consciousness and the development of egalitarian communist society.

Marx also described two other classes, the petite bourgeoisie and the lumpenproletariat. The petite bourgeoisie is like a small business class that never really accumulates enough profit to become part of the bourgeoisie, or even challenge their absolute power. The lumpenproletariat is the low life part of the proletariat class. This includes prostitutes, beggars, swindlers, etc. Neither of these subclasses has much influence in Marx's two class system, but it is helpful to know that Marx did recognize differences within the classes.

According to Marvin Harris and Tim Ingold, Lewis Henry Morgan's accounts of egalitarian hunter-gatherers formed part of Karl Marx and Engels's inspiration for communism. Morgan spoke of a situation in which people living in the same community pooled their efforts and shared the rewards of those efforts fairly equally. He called this "communism in living." But when Marx expanded on these ideas, he still emphasized an economically oriented culture, with property defining the fundamental relationships between people. Yet, issues of ownership and property are arguably less emphasized in hunter-gatherer societies. This, combined with the very different social and economic situations of hunter-gatherers may account for many of the difficulties encountered when implementing communism in industrialized states. As Ingold points out: "The notion of communism, removed from the context of domesticity and harnessed to support a project of social engineering for large-scale, industrialized states with populations of millions, eventually came to mean something quite different from what Morgan had intended: namely, a principle of redistribution that would override all ties of a personal or familial nature, and cancel out their effects."

Max Weber

Max Weber was strongly influenced by Marx's ideas, but rejected the possibility of effective communism, arguing that it would require an even greater level of detrimental social control and bureaucratization than capitalist society. Moreover, Weber criticized the dialectical presumption of proletariat revolt, believing it to be unlikely. Instead, he developed the three-component theory of stratification and the concept of life chances. Weber supposed there were more class divisions than Marx suggested, taking different concepts from both functionalist and Marxist

theories to create his own system. He emphasized the difference between class, status, and power, and treated these as separate but related sources of power, each with different effects on social action. Working at half a century later than Marx, Weber claimed there to be in fact four main classes: the upper class, the white collar workers, the petite bourgeoisie, and the manual working class. Weber's theory more-closely resembles contemporary Western class structures, although economic status does not currently seem to depend strictly on earnings in the way Weber envisioned.

Weber derived many of his key concepts on social stratification by examining the social structure of Germany. He noted that contrary to Marx's theories, stratification was based on more than simply ownership of capital. Weber examined how many members of the aristocracy lacked economic wealth yet had strong political power. Many wealthy families lacked prestige and power, for example, because they were Jewish. Weber introduced three independent factors that form his theory of stratification hierarchy, which are; class, status, and power:

- **Class:** A person's economic position in a society, based on birth and individual achievement. Weber differs from Marx in that he does not see this as the supreme factor in stratification. Weber noted how corporate executives control firms they typically do not own; Marx would have placed these people in the proletariat despite their high incomes by virtue of the fact they sell their labor instead of owning capital.
- **Status:** A person's prestige, social honor, or popularity in a society. Weber noted that political power was not rooted in capital value solely, but also in one's individual status. Poets or saints, for example, can have extensive influence on society despite few material resources.
- **Power:** A person's ability to get their way despite the resistance of others. For example, individuals in state jobs, such as an employee of the Federal Bureau of Investigation, or a member of the United States Congress, may hold little property or status but still wield considerable power.

C. Wright Mills

C. Wright Mills contended that the imbalance of power in society derives from the complete absence of countervailing powers against corporate leaders of the power elite. "... Mills both

incorporated and revised Marxist ideas. While he shared Marx's recognition of a dominant wealthy and powerful class, Mills believed that the source for that power lay not only in the economic realm but also in the political and military arenas. During the 1950s, Mills stated that hardly anyone knew about the power elite's existence, some individuals (including the elite themselves) denied the idea of such a group, and other people vaguely believed that a small formation of a powerful elite existed. "Some prominent individuals knew that Congress had permitted a handful of political leaders to make critical decisions about peace and war; and that two atomic bombs had been dropped on Japan in the name of the United States, but neither they nor anyone they knew had been consulted." Mills sought to inform people about the existence of the power elite through his book *The Power Elite*.

Mills explained that the power elite embodied a privileged class whose members were able to recognize their high position within society. In order to maintain their highly exalted position within society, members of the power elite tend to marry one another, understand and accept one another, and they also work together. The most crucial aspect of the power elite's existence lays within the core of education. "Youthful upper-class members attend prominent preparatory schools, which not only open doors to such elite universities as Harvard, Yale, and Princeton but also to the universities' highly exclusive clubs. These memberships in turn pave the way to the prominent social clubs located in all major cities and serving as sites for important business contacts." Examples of elite members who attended prestigious universities and were members of highly exclusive clubs can be seen in George W. Bush and John Kerry. Both Bush and Kerry were members of the Skull and Bones club while attending Yale University. This club includes members of some of the most powerful men of the twentieth century, all of which are forbidden to tell others about the secrets of their exclusive club. Throughout the years, the Skull and Bones club has included presidents, cabinet officers, Supreme Court justices, spies, captains of industry, and often their sons and daughters join the exclusive club, creating a social and political network like none ever seen before.

The upper class individuals who receive elite educations typically have the essential background and contacts to enter into the three branches of the power elite: The political leadership, the military circle, and the corporate elite.

- The Political Leadership: Mills stated that prior to the end of World War II, leaders of corporations became more prominent within the political sphere, with a decline in central decision-making among professional politicians.
- The Military Circle: During the 1950s-1960s, increasing concerns about warfare existed, resulting in top military leaders and issues involving defense funding and military personnel training becoming a top priority within the United States. Most of the prominent politicians and corporate leaders were strong proponents of military spending.
- The Corporate Elite: Mills explains that during the 1950s, when the military emphasis was recognized, corporate leaders worked with prominent military officers who dominated the development of policies. Corporate leaders and high-ranking military officers were mutually supportive of each other.

Mills believed that the power elite has an "inner-core" that was made up of individuals who were able to move from one position of institutional power to another; a prominent military officer who becomes a political adviser or a powerful politician who becomes a corporate executive. "These people have more knowledge and a greater breadth of interests than their colleagues. Prominent bankers and financiers, who Mills considered 'almost professional go-betweens of economic, political, and military affairs,' are also members of the elite's inner core.

Anthropological overview

Anthropologists have found that social stratification is not the standard among all societies. John Gowdy writes, "Assumptions about human behaviour that members of market societies believe to be universal, that humans are naturally competitive and acquisitive, and that social stratification is natural, do not apply to many hunter-gatherer peoples. Non-stratified egalitarian or acephalous ("headless") societies exist which have little or no concept of social hierarchy, political or economic status, class, or even permanent leadership.

Kinship-orientation

Anthropologists identify egalitarian cultures as "kinship-oriented," because they appear to value social harmony more than wealth or status. These cultures are contrasted with economically oriented cultures (including states) in which status and material wealth are prized, and

stratification, competition, and conflict are common. Kinship-oriented cultures actively work to prevent social hierarchies from developing because they believe that such stratification could lead to conflict and instability. Reciprocal altruism is one process by which this is accomplished.

A good example is given by Richard Borshay Lee in his account of the Khoisan, who practice "insulting the meat." Whenever a hunter makes a kill, he is ceaselessly teased and ridiculed (in a friendly, joking fashion) to prevent him from becoming too proud or egotistical. The meat itself is then distributed evenly among the entire social group, rather than kept by the hunter. The level of teasing is proportional to the size of the kill. Lee found this out when he purchased an entire cow as a gift for the group he was living with, and was teased for weeks afterward about it (since obtaining that much meat could be interpreted as showing off).

Another example is the Indigenous Australians of Groote Eylandt and Bickerton Island, off the coast of Arnhem Land, who have arranged their entire society, spirituality, and economy around a kind of gift economy called renunciation. According to David H. Turner, in this arrangement, every person is expected to give everything of any resource they have to any other person who needs or lacks it at the time. This has the benefit of largely eliminating social problems like theft and relative poverty. However, misunderstandings obviously arise when attempting to reconcile Aboriginal renunciative economics with the competition/scarcity-oriented economics introduced to Australia by Anglo-European colonists. See also the Original affluent society.

Chapter-9

Social Impact

Research suggests that social stratification can cause many social problems. A comprehensive study of major world economies revealed that homicide, infant mortality, obesity, teenage pregnancies, emotional depression, teen suicide, and prison population all correlate with higher social inequality.

Three characteristics of stratified system

1. The rankings apply to social categories of people who share a common characteristic without necessarily interacting or identifying with each other. The process of being ranked can be changed by the person being ranked.

- Example: The way we rank people differently by race, gender, and social class

2. People's life experiences and opportunities depend on their social category. This characteristic can be changed by the amount of work a person can put into their interests.

- Example: The greater advantage had by the son or daughter of a king to have a successful life than the son or daughter of a minimum-wage factory worker, because the king has a greater amount of resources than the factory worker. The use of resources can influence others.

3. The ranks of different social categories change slowly over time. This has occurred frequently in the United States ever since the American revolution. The U.S. constitution has been altered several times to specify rights for everyone.

Middle class

The middle class is a class of people in the middle of a societal hierarchy. In Weberian socio-economic terms, the middle class is the broad group of people in contemporary society who fall socio-economically between the working class and upper class. The common measures of what constitutes middle class vary significantly among cultures.

History and evolution of the term

The term "middle class" is first attested in James Bradshaw's 1745 pamphlet *Scheme to prevent running Irish Wools to France*. The term has had several, sometimes contradictory, meanings. It was once defined by exception as an intermediate social class between the nobility and the peasantry of Europe. While the nobility owned the countryside, and the peasantry worked the countryside, a new bourgeoisie (literally "town-dwellers") arose around mercantile functions in the city. Another definition equated the middle class to the original meaning of capitalist: someone with so much capital that they could rival nobles. In fact, to be a capital-owning millionaire was the essential criterion of the middle class in the industrial revolution. In France, the middle classes helped drive the French Revolution.

The modern usage of the term "middle class", however, dates to the 1913 UK Registrar-General's report, in which the statistician T.H.C. Stevenson identified the middle class as that falling between the upper class and the working class. Included as belonging to the middle class are professionals, managers, and senior civil servants. The chief defining characteristic of membership in the middle class is possession of significant human capital.

Within capitalism, "middle class" initially referred to the bourgeoisie and the petite bourgeoisie. However, with the impoverisation and proletarianisation of much of the petit bourgeois world, and the growth of finance capitalism, "middle class" came to refer to the combination of the labour aristocracy, the professionals, and the white collar workers.

The size of the middle class depends on how it is defined, whether by education, wealth, environment of upbringing, social network, manners or values, etc. These are all related, but are far from deterministically dependent. The following factors are often ascribed in modern usage to a "middle class"

- Achievement of tertiary education.
- Holding professional qualifications, including academics, lawyers, chartered engineers, politicians, and doctors, regardless of leisure or wealth.
- Belief in bourgeois values, such as high rates of house ownership and jobs which are perceived to be secure.

- Lifestyle. In the United Kingdom, social status has historically been linked less directly to wealth than in the United States, and has also been judged by signifiers such as accent, manners, place of education, occupation, and the class of a person's family, circle of friends and acquaintances.
- Cultural identification. Often in the United States, the middle class are the most eager participants in pop culture whereas the reverse is true in Britain. The second generation of new immigrants will often enthusiastically forsake their traditional folk culture as a sign of having arrived in the middle class

In the United States by the end of the twentieth century, more people identified themselves as middle class than as lower or "working" class (with insignificant numbers identifying themselves as upper class). The British Labour Party, which grew out of the organized labour movement and originally drew almost all of its support from the working class, reinvented itself under Tony Blair in the 1990s as "New Labour", a party competing with the Conservative Party for the votes of the middle class as well as the working class. By 2011, almost three quarters of British people were also found to identify themselves as Middle Class.

Marxism

In Marxism, which defines social classes according to their relationship with the means of production, the "middle class" is said to be the class below the ruling class and above the proletariat in the Marxist social schema. Marxist writers have used the term in two distinct but related ways. In the first sense it is used for the bourgeoisie, the urban merchant and professional class that stood between the aristocracy and the proletariat in the Marxist model. However, in modern developed countries, some Marxist writers specify the petite bourgeoisie – owners of small property who may not employ wage labor – as the "middle class" between the ruling and working classes. Marx himself regarded this version of the "middle class" as becoming merged with the working classes.

Pioneer 20th Century American Marxist theoretician Louis C. Fraina (Lewis Corey) defined the middle class as "the class of independent small enterprisers, owners of productive property from which a livelihood is derived." Included in this social category, from Fraina's perspective, were "propertied farmers" but not propertyless tenant farmers. Middle class also included salaried

managerial and supervisory employees but not "the masses of propertyless, dependent salaried employees. Fraina speculated that the entire category of salaried employees might be adequately described as a "new middle class" in economic terms, although this remained a social grouping in which "most of whose members are a new proletariat."

The fact that recent decades have seen a large section of small businessmen (shopkeepers, restaurants) replaced by wage-workers (in supermarkets or chains of restaurants) has led most marxists to theorize an expansion of the working class at the expense of the middle class.

Social reproduction of the middle class

Through social reproduction, the middle-class grooms its members each generation to take over from the previous one. To do this, they have nearly developed a system for turning children of the middle-class into successful citizens. Those who are categorized under the American middle-class give education a great importance, and value success in education as one of the chief factors in establishing the middle-class life. Parents place a strong emphasis on the significance of a quality education and its effects on success later in life. The best way to understand education through the eyes of middle-class citizens would be through the previously stated process of social reproduction as middle-class parents breed their own offspring to become successful members of the middle-class. Members of the middle-class consciously use their available sources of capital to prepare their children for the adult world.[]

The middle-class childhood is most prominently characterized by an authoritative parenting approach with a combination of parental warmth, support and control. Parents set some rules establishing limits, but overall this approach creates a greater sense of trust, security, and self-confidence. Though not every middle-class family fits under such a specific, yet broad definition, this style of parenting reflects greatly the middle-class attitude toward childrearing. Teach your children through an active role as parent, which includes a relatively positive parent/child relationship, where the parent plays an active role in the child's life, making sure to be there for emotional support and guidance in order to shape one's children into proper, hardworking middle-class citizens.

In addition to an authoritative parenting style, middle-class parents provide their children with valuable sources of capital. By spending a lot of time helping their children learn to express

themselves effectively, middle-class parents are equipping their children with cultural capital. In a study done by sociologist Annette Lareau, she uses an example of nine-year-old Alex, a middle-class child at the doctor's office getting his regular check-up. Alex's mother has suggested he start thinking of a few questions to ask. When the doctor mentions a confusing term to Alex, his parental guidance provides him with the confidence to ask questions and assert himself, whereby he proceeds in conversation with the doctor, offering up his own opinions and even putting to test the doctor's. Middle-class parents want their children to understand and appreciate the life provided to them in a complicated and sometimes threatening modern world, to appreciate that living well requires a careful study of this world, and do this by painstakingly explaining the reasoning for the decisions and orders they issue.

Valuing the importance of networking, as outlined below, middle-class parents provide human capital to their children by frequently signing up boys and girls for various adult-run activities, such as soccer, dance, or music lessons; sometimes having as many as three or four per week or even more. Middle-class families utilize their capital resources in order to maintain or develop further their status as members of the middle-class, often hoping to rise to the upper-middle or upper-classes.

Children from middle-class families develop a sense of entitlement. A result of the investments in capital provided and encouraged by parents, middle-class children are far more likely than their working-class or lower-class counterparts to feel this sense of entitlement.

Following the sense of entitlement given to middle-class students from their parents, going to college is an assumption. The striking majority of middle-class children have no reason to question the thought of going to college; never an option, but always an assumption that a college degree is a prerequisite to success in life. This thought can be seen even more so from parents with higher education, whose greater appreciation for autonomy leads them to want the same for their children.

Parents of middle-class children make use of their social capital when it comes to their children's education as they seek out other parents and teachers for advice. Some parents even develop regular communication with their child's teachers, asking for regular reports on behavior and

grades. When problems do occur, middle-class parents are quick to “enlist the help of professionals when they feel their children need such services.”

The middle-class parents’ involvement in their children’s schooling underlines their recognition of its importance. Some would even argue that the middle-class is the key to a better educated nation.

Doob reminds us that “middle-class people are joiners—open to information and influence from various members of their class” (page number here). What he means by this is that members of the middle-class are far more likely to reach out for help from other middle-class families than individuals from lower classes who either don’t have access to such networks or do not feel confident enough to look for them.

Professional-managerial class

In 1977 Barbara Ehrenreich and her then husband John defined a new Marxist class in United States as "salaried mental workers who do not own the means of production and whose major function in the social division of labor...(is)...the reproduction of capitalist culture and capitalist class relations"; the Ehrenreichs named this group the "professional-managerial class". This group of middle-class professionals are distinguished from other social classes by their training and education (typically business qualifications and university degrees), with example occupations including academics and teachers, social workers, engineers, managers, nurses, and middle-level administrators. The Ehrenreichs developed their definition from studies by André Gorz, Serge Mallet, and others, of a "new working class", which, despite education and a perception of themselves as being middle class, were part of the working class because they did not own the means of production, and were wage earners paid to produce a piece of capital. The professional-managerial class seeks higher rank status and salary, and tend to have incomes above the average for their country.

Compare the term "managerial caste".

Recent growth of the global middle class

In February 2009, The Economist announced that over half the world's population now belongs to the middle class, as a result of rapid growth in emerging countries. It characterized the middle

class as having a reasonable amount of discretionary income, so that they do not live from hand to mouth as the poor do, and defined it as beginning at the point where people have roughly a third of their income left for discretionary spending after paying for basic food and shelter. This allows people to buy consumer goods, improve their health care, and provide for their children's education. Most of the emerging middle class consists of people who are middle-class by the standards of the developing world but not the rich one, since their money incomes do not match developed country levels, but the percentage of it which is discretionary does. By this definition, the number of middle-class people in Asia exceeded that in the West sometime around 2007 or 2008.

The Economist's article pointed out that in many emerging countries the middle class has not grown incrementally, but explosively. The rapid growth results from the fact that the majority of the people fall into the middle of a left-skewed bell-shaped curve, and when the peak of the population curve crosses the threshold into the middle class, the number of people in the middle class grows enormously. In addition, when the curve crosses the threshold, economic forces cause the bulge to become taller as incomes at that level grow faster than incomes in other ranges. The point at which the poor start entering the middle class by the millions is the time when poor countries get the maximum benefit from cheap labour through international trade, before they price themselves out of world markets for cheap goods. It is also a period of rapid urbanization, when subsistence farmers abandon marginal farms to work in factories, resulting in a several-fold increase in their economic productivity before their wages catch up to international levels. That stage was reached in China some time between 1990 and 2005, when the middle class grew from 15% to 62% of the population, and is just being reached in India now.

The Economist predicted that surge across the poverty line should continue for a couple of decades and the global middle class will grow enormously between now and 2030.

As the American middle class is estimated at approximately 45% of the population, The Economist's article would put the size of the American middle class below the world average. This difference is due to the extreme difference in definitions between The Economist's and many other models.

In 2010, a working paper by the OECD estimated that 1.8 billion people were now members of the global middle class.

Chapter-10

Working Class

The working class (also lower class, labouring class, proletariat, or laboring class) are those employed in lower tier, subordinate jobs. These typically include blue-collar jobs, but also include large amounts of white collar and service work. The working class subsists on wages, by working for others, because it does not own independent means of income generation. The working class therefore includes a large majority of the population in industrialized economies, of the urban areas of non-industrialized economies, and also a significant sector of the rural workforce worldwide. The working class generally includes all of those possessing below-average incomes, but may also include layers that earn high incomes.

In Marxist theory and socialist literature, working class is often used synonymously with the term proletariat, and includes all those who expend either mental or physical labor to produce economic value, or wealth in non-academic terms, for those who own means of production. It thus includes knowledge workers and white collar workers who work for a salary. Since wages can be very low, and since the state of unemployment is by definition a lack of independent means of income generation and a lack of waged employment, the working class also includes the extremely poor and unemployed, which are sometimes called the lumpenproletariat.

The term "working class" class usage can alternately be derogatory, or can express a sense of pride in those who self-identify as working class.

Definitions

As with many terms describing social class, working class is defined and used in many different ways.

When used non-academically in the United States, for example, it often refers to a section of society dependent on physical labor, especially when compensated with an hourly wage. For certain types of science, as well as less scientific or journalistic political analysis, for example, the working class is presented as less well-educated workers is useful e.g. the white working class in the United States is reduced to white, non-Hispanic workers who have not completed

college. Working class occupations are then categorized into four groups: Unskilled laborers, artisans, outworkers, and factory workers. If such approaches are accepted, then the decline of traditional blue collar jobs in postindustrial societies would signify a decline of the working class.

However, if "working class" is defined by occupation, there is no real reason to use the concept, since each occupation would logically constitute a "class." The concept becomes empty and arbitrarily applied, rather than precise and useful.

Another problematic if common alternative, sometimes used in sociology, is to define class by income levels. When this approach is used, the working class can be contrasted with a so-called middle class on the basis of differential terms of access to economic resources, education, cultural interests, and other goods and services. The cut-off between working class and middle class here might mean the line where a population has disposable income, rather than simply sustenance (for example, on fashion versus merely nutrition and shelter).

The problem with an income-based definition is that the cut-off points can be quite arbitrary: why not have, for instance, 30 "classes," based on 30 arbitrary break points? Also problematically, relying on this method of distinction would mean that people in identical jobs, education, interests and lifestyles would appear in different classes depending on employer (for example, a nurse in a private hospital, versus a nurse in a state hospital), depending on wage adjustments (for example, 1 10% wage increase), and other divisions. If that is the case, it becomes difficult to speak about "class" at all; indeed, many of the people who are often identified as working class (for example, factory workers) would be defined in and out of the working class in an inconsistent manner.

This would strip class of its explanatory power: for example, trade unionism, commonly seen as a typically working class phenomenon, attracts waged workers in subordinate jobs, regardless of levels of education, job type or the blue collar/ white collar distinction. By contrast, an understanding of "working class" as comprising all waged workers in subordinate jobs, including the very poor and unemployed wage workers, explains this pattern easily as it draws attention to the common class interests and status and situation of all of these groups.

History and growth

Working class life in Victorian Wetherby, West Yorkshire, England.

In feudal Europe, the working class as such did not exist in large numbers. Instead, most people were part of the laboring class, a group made up of different professions, trades and occupations. A lawyer, craftsman and peasant were all considered to be part of the same social unit, a third estate of people who were neither aristocrats nor church officials. Similar hierarchies existed outside Europe in other pre-industrial societies. The social position of these laboring classes was viewed as ordained by natural law and common religious belief. This social position was contested, particularly by peasants, for example during the German Peasants' War.

Statue of a coal miner in Charleston, West Virginia.

In the late 18th century, under the influence of the Enlightenment, European society was in a state of change, and this change could not be reconciled with the idea of a changeless god-created social order. Wealthy members of these societies created ideologies which blamed many of the problems of working-class people on their morals and ethics (i.e. excessive consumption of alcohol, perceived laziness and inability to save money). In *The Making of the English Working Class*, E.P. Thompson argues that the English working class was present at its own creation, and seeks to describe the transformation of pre-modern laboring classes into a modern, politically self-conscious, working class.

Starting around 1917, a number of countries became ruled ostensibly in the interests of the working class. (see Soviet working class). Some historians have noted that a key change in these Soviet-style societies has been a massive a new type of proletarianisation, often effected by the administratively achieved forced displacement of peasants and rural workers. Since then, three major industrial states have turned towards semi-market-based governance (China, Laos, Vietnam, Cuba), and one state has turned inwards into an increasing cycle of poverty and brutalisation (North Korea). Other states of this sort have either collapsed (such as the Soviet Union), or never achieved significant levels of industrialization or large working classes.

Since 1960, large-scale proletarianisation and enclosure of commons has occurred in the third world, generating new working classes. Additionally, countries such as India have been slowly undergoing social change, expanding the size of the urban working class.

Marxist definition

.Karl Marx defined the working class or proletariat as individuals who sell their labor power for wages and who do not own the means of production. He argued that they were responsible for creating the wealth of a society. He asserted that the working class physically build bridges, craft furniture, grow food, and nurse children, but do not own land, or factories. A sub-section of the proletariat, the lumpenproletariat (rag-proletariat), are the extremely poor and unemployed, such as day laborers and homeless people.

In The Communist Manifesto, Karl Marx and Friedrich Engels argued that it was the destiny of the working class to displace the capitalist system, with the dictatorship of the proletariat, abolishing the social relationships underpinning the class system and then developing into a future communist society in which "the free development of each is the condition for the free development of all." In Capital, Marx dissected the ways in which capital can forestall such a revolutionary extension of the Enlightenment. Some issues in Marxist arguments about working class membership have included:

- The class status of people in a temporary or permanent position of unemployment.
- The class status of domestic labor, particularly the children (see child labor), and also traditionally the wives of male workers, as some spouses do not themselves work in paying jobs outside the home.
- Whether workers can be considered working class if they own personal property or small amounts of stock ownership.
- The relationships among peasants, rural smallholders, and the working class.
- The extent to which non-class group identities and politics (race, gender, et al.) can obviate or substitute for working class membership in Enlightenment projects, where working class membership is prohibitively contradictory or obfuscated.

Some answers to some of these issues, as argued, analyzed, and formulated over the centuries, are:

- Unemployed workers are proletariat.
- Class for dependents is determined by the primary income earner.
- Personal property is clearly different from private property. For example, the proletariat can own houses; this is personal property.
- The self-employed worker may be a member of the petite bourgeoisie (for example a highly paid professional, athlete, etc.), or a member of the proletariat (for example, a contract worker whose income may be relatively high but is precarious).
- Students' class status depends on that of their family, and also on whether they remain financially dependent on them.
- Race, gender and class are overlapping social stratification categories. It is possible for capitalists to strategically substitute the members of race, class, and gender groups to attain capitalist objectives; but once these stratification categories are formed and deployed, membership balkanizes experiences and interests.

In general, in Marxist terms, wage laborers and those dependent on the welfare state are working class, and those who live on accumulated capital are not. This broad dichotomy defines the class struggle. Different groups and individuals may at any given time be on one side or the other. For example, retired factory workers are working class in the popular sense; but to the extent that they live off fixed incomes, financed by stock in corporations whose earnings are profit, retired factory workers' interests, and possibly their identities and politics, are not working class. Such contradictions of interests and identity within individuals' lives and within communities can effectively undermine the ability of the working class to act in solidarity to reduce exploitation, inequality, and the role of ownership in determining people's life chances, work conditions, and political power.

The position of core capitalists is not nearly as contradictory within a capitalist system. Capitalists own the means of production and they will have it managed for their own

aggrandizement. From the capitalist perspective, it would be silly to manage production (or build political resources that could influence economic relationships) for the benefit of workers. To the extent that workers sometimes benefit in some ways from capitalism, it is not a central goal, but a byproduct. Thus, operating with less class interest contradiction and less identity contradiction, and more resources for political coordination, capitalist class members can often coordinate and prosecute their interests with a great deal of efficacy, over and against workers.

Chapter-11

Industrialisation

The effect of Industrialisation shown by rising income levels since 1500. The graph shows the gross domestic product (at purchasing power parity) per capita between 1500 and 1950 in 1990 International dollars for selected nations.

Map showing the global distribution of industrial output[clarification needed] in 2005, based on a percentage of the top producing state, the United States

Industrialisation (or industrialization) is the period of social and economic change that transforms a human group from an agrarian society into an industrial one. It is a part of a wider modernisation process, where social change and economic development are closely related with technological innovation, particularly with the development of large-scale energy and metallurgy production. It is the extensive organisation of an economy for the purpose of manufacturing. Industrialisation also introduces a form of philosophical change where people obtain a different attitude towards their perception of nature, and a sociological process of ubiquitous rationalisation

There is considerable literature on the factors facilitating industrial modernisation and enterprise development.]Key positive factors identified by researchers have ranged from favourable politico-legal environments for industry and commerce, through abundant natural resources of various kinds, to plentiful supplies of relatively low-cost skilled and adaptable labour.

As industrial workers' incomes rise, markets for consumer goods and services of all kinds tend to expand and provide a further stimulus to industrial investment and economic growth.

The first country to industrialise was the United Kingdom during the Industrial Revolution, commencing in the 18th century.

By the end of the 20th century, East Asia had become one of the most recently industrialised regions of the world.

Description

According to the original sector-classification developed by Jean Fourastié (1907-1990), an economy consists of:

- a "primary sector" of commodity production (farming, livestock breeding, exploitation of mineral resources)
- a "secondary sector" of manufacturing and processing (as paid work)
- a "tertiary sector" of service industries

Historically, the industrialisation process involves the expansion of the secondary sector in an economy originally dominated by primary-sector activities.

The first transformation to an industrial economy from an agricultural one, known as the Industrial Revolution, took place from the mid-18th to early 19th century in certain areas in Europe and North America; starting in Great Britain, followed by Belgium, Germany, and France. Later commentators have called this the first industrial revolution.

The "Second Industrial Revolution" labels the later changes that came about in the mid-19th century after the refinement of the steam engine, the invention of the internal combustion engine, the harnessing of electricity and the construction of canals, railways and electric-power lines. The invention of the assembly line gave this phase a boost.

The lack of an industrial sector in a country can slow growth in the country's economy and power, so governments often encourage or enforce industrialisation. On the other hand, the presence of industry in a country does not mean in general that it will bring wealth and prosperity to the people of that country. And third, the presence of an industry in one country can make it more difficult for other countries to develop the same type of industry. This can be seen in the computer software and internet industries. Started from the US around the 1990s these industries seemed to spread over the world. But after a period of monopolisation less than a decade long, the globally-leading companies remain concentrated in the US. Their economic power and capacity to dominate the media work against the developing of the same types of industry in other states.

History of industrialisation

A Watt steam engine, the steam engine fuelled primarily by coal that propelled the Industrial Revolution in the United Kingdom and the world.

Most pre-industrial economies had standards of living not much above subsistence, among that the majority of the population were focused on producing their means of survival. For example, in medieval Europe, as much as 80% of the labour force was employed in subsistence agriculture.

Some pre-industrial economies, such as classical Athens, had trade and commerce as significant factors, so native Greeks could enjoy wealth far beyond a sustenance standard of living through the use of slavery. Famines were frequent in most pre-industrial societies, although some, such as the Netherlands and England of the 17th and 18th centuries, the Italian city states of the 15th century, the medieval Islamic Caliphate, and the ancient Greek and Roman civilisations were able to escape the famine cycle through increasing trade and commercialisation of the agricultural sector. It is estimated that during the seventeenth century Netherlands imported nearly 70% of its grain supply and in the fifth century BC Athens imported three-quarters of its total food supply.

Industrialisation through innovation in manufacturing processes first started with the Industrial Revolution in the north-west and Midlands of England in the 18th century. It spread to Europe and North America in the 19th century.

Industrial revolution in Europe

Aplerbecker Hütte, an industrialised area of Dortmund, Germany circa 1910. The old town can be seen beyond and some remaining agricultural land is in the foreground

In the 18th and 19th centuries, the UK experienced a massive increase in agricultural productivity known as the British Agricultural Revolution, which enabled an unprecedented population growth, freeing a significant percentage of the workforce from farming, and helping to drive the Industrial Revolution.

Due to the limited amount of arable land and the overwhelming efficiency of mechanised farming, the increased population could not be dedicated to agriculture. New agricultural techniques allowed a single peasant to feed more workers than previously; however, these techniques also increased the demand for machines and other hardware, which had traditionally been provided by the urban artisans. Artisans, collectively called bourgeoisie, employed rural exodus workers to increase their output and meet the country's needs.

British industrialisation involved significant changes in the way that work was performed. The process of creating a good was divided into simple tasks, each one of them being gradually mechanised in order to boost productivity and thus increase income. The new machines helped to improve the productivity of each worker. However, industrialisation also involved the exploitation of new forms of energy. In the pre-industrial economy, most machinery was powered by human muscle, by animals, by wood-burning or by water-power. With industrialisation these sources of fuel were replaced with coal, which could deliver significantly more energy than the alternatives. Indeed, much of the new technology that accompanied the industrial revolution was for machines which could be powered by coal. One outcome of this was an increase in the overall amount of energy consumed within the economy - a trend which has continued in all industrialised nations to the present day.

The accumulation of capital allowed investments in the conception and application of new technologies, enabling the industrialisation process to continue to evolve. The industrialisation process formed a class of industrial workers who had more money to spend than their agricultural cousins. They spent this on items such as tobacco and sugar, creating new mass markets that stimulated more investment as merchants sought to exploit them.

The mechanisation of production spread to the countries surrounding England geographically in Europe such as France and to British settler colonies, helping to make those areas the wealthiest, and shaping what is now known as the Western world.

The Crystal Palace Great Exhibition of the Works of Industry of all Nations which took place in London in 1851. The United Kingdom was the first country in the world to industrialise and the exhibition's prime motive was for "Great Britain to make clear to the world its role as industrial leader."

Some economic historians argue that the possession of so-called 'exploitation colonies' eased the accumulation of capital to the countries that possessed them, speeding up their development. The consequence was that the subject country integrated a bigger economic system in a subaltern position, emulating the countryside, which demands manufactured goods and offers raw materials, while the colonial power stressed its urban posture, providing goods and importing food. A classical example of this mechanism is said to be the triangular trade, which involved England, southern United States and western Africa. Some have stressed the importance of natural or financial resources that Britain received from its many overseas colonies or that profits from the British slave trade between Africa and the Caribbean helped fuel industrial investment.

Whilst these arguments still find some favour with historians of the colonies, most historians of the British Industrial Revolution do not consider that colonial possessions formed a significant role in the country's industrialisation. Whilst not denying that Britain could profit from these arrangements, they believe that industrialisation would have proceeded with or without the colonies.

Early industrialisation in other countries

After the Convention of Kanagawa issued by Commodore Matthew C. Perry forced Japan to open the ports of Shimoda and Hakodate to American trade, the Japanese government realised that drastic reforms were necessary to stave off Western influence. The Tokugawa shogunate abolished the feudal system. The government instituted military reforms to modernise the Japanese army and also constructed the base for industrialisation. In the 1870s, the Meiji government vigorously promoted technological and industrial development that eventually changed Japan to a powerful modern country.

In a similar way, Russia suffered during the Allied intervention in the Russian Civil War. The Soviet Union's centrally controlled economy decided to invest a big part of its resources to

enhance its industrial production and infrastructures to assure its survival, thus becoming a world superpower.

During the Cold war, the other European socialist countries, organised under the Comecon framework, followed the same developing scheme, albeit with a less emphasis on heavy industry.

Southern European countries such as Spain or Italy saw a moderate industrialisation during the 1950s-1970s, caused by a healthy integration of the European economy, though their levels of development, as well as those of Socialist European Countries, do not match the more advanced standards of other European countries like Germany.

The Third World

A similar state-led developing programme was pursued in virtually all the Third World countries during the Cold War, including the socialist ones, but especially in Sub-Saharan Africa after the decolonisation period. The primary scope of those projects was to achieve self-sufficiency through the local production of previously imported goods, the mechanisation of agriculture and the spread of education and health care. However, all those experiences failed bitterly due to a lack of realism: most countries did not have a pre-industrial bourgeoisie able to carry on a capitalistic development or even a stable and peaceful state. Those aborted experiences left huge debts toward western countries and fuelled public corruption.

Petrol-producing countries

Oil-rich countries saw similar failures in their economic choices. An EIA report stated that OPEC member nations were projected to earn a net amount of \$1.251 trillion in 2008 from their oil exports. Because oil is both important and expensive, regions that had big reserves of oil had huge liquidity incomes. However, this was rarely followed by economic development. Experience shows that local elites were unable to re-invest the petrodollars obtained through oil export, and currency is wasted in luxury goods.

This is particularly evident in the Persian Gulf states, where the per capita income is comparable to those of western nations, but where no industrialisation has started. Apart from two little countries (Bahrain and the United Arab Emirates), The Gulf states have not diversified their economies, and no replacement for the upcoming end of oil reserves is envisaged.

Industrialisation in Asia

Apart from Japan, where industrialisation began in the late 19th century, a different pattern of industrialisation followed in East Asia. One of the fastest rates of industrialisation occurred in the late 20th century across four countries known as the Asian tigers (Hong Kong, Singapore, South Korea and Taiwan), thanks to the existence of stable governments and well structured societies, strategic locations, heavy foreign investments, a low cost skilled and motivated workforce, a competitive exchange rate, and low custom duties.

In the case of South Korea, the largest of the four Asian tigers, a very fast paced industrialisation took place as it quickly moved away from the manufacturing of value-added goods in the 1950s and 60s into the more advanced steel, shipbuilding and automotive industry in the 1970s and 80s, focusing on the high-tech and service industry in the 1990s and 2000s. As a result, South Korea became a major economic power.

This starting model was afterwards successfully copied in other larger Eastern and Southern Asian countries, including communist ones. The success of this phenomenon led to a huge wave of offshoring – i.e., Western factories or Tertiary Sector corporations choosing to move their activities to countries where the workforce was less expensive and less collectively organised.

China and India, while roughly following this development pattern, made adaptations in line with their own histories and cultures, their major size and importance in the world, and the geopolitical ambitions of their governments, etc..

Meanwhile, India's government is investing in economic sectors such as bioengineering, nuclear technology, pharmaceuticals, informatics, and technologically-oriented higher education, exceeding its needs, with the goal of creating several specialisation poles able to conquer foreign markets.

Both China and India have also started to make significant investments in other developing countries, making them significant players in today's world economy.

Newly industrialised countries

The countries in green are considered to be newly industrialising nations. China and India (in dark green) are a special case.

Since the mid-late 20th century, a few countries in Latin America, Asia, and Africa, such as Brazil, Indonesia, Malaysia, Mexico, Philippines, South Africa, and Turkey have experienced substantial industrial growth, fuelled by exporting to countries that have bigger economies: the United States, China, India and the EU. They are sometimes called newly industrialised countries.

Despite this trend being artificially influenced by the oil price increases since 2003, the phenomenon is not entirely new nor totally speculative (for instance see: Maquiladora).

Japan and Russia both were successful in the fact that they imitated many other societies giving them flexibility. Yet they both had very little in common before the 19th century. Japan was isolated from the world with its ongoing traditions and forms of centralised government. Russia featured a more strong centralised government under the emperor.

Both would soon discover that westernisation and industrialism were expanding and their own ways would not hold up against the new changing world of industrialisation. In the late 19th century the requirement for them to begin industrialising would become even more prevalent for the success of their nation in this new, growing society.

Chapter-12

Social Consequences

Urbanisation

The concentration of labour into factories has brought about the rise of large towns to serve and house the factory workers.

Exploitation

Workers have to leave their family in order to come to work in the towns and cities where the industries are found.

Change to family structure

The family structure changes with industrialisation. The sociologist Talcott Parsons noted that in pre-industrial societies there is an extended family structure spanning many generations who probably remained in the same location for generations. In industrialised societies the nuclear family, consisting of only of parents and their growing children, predominates. Families and children reaching adulthood are more mobile and tend to relocate to where jobs exist. Extended family bonds become more tenuous.

Current situation

GDP composition of sector and labour force by occupation. The green, red, and blue components of the colours of the countries represent the percentages for the agriculture, industry, and services sectors, respectively.

Currently the "international development community" (World Bank, Organisation for Economic Co-Operation and Development (OECD), many United Nations departments, and some other organisations)[endorses development policies like water purification or primary education[and Co-Operation amongst third world communities. There are members of the Economic communities who don't believe in recognising that contemporary industrialisation policies as being adequate to the global south (Third World countries) or beneficial in the longer term, with

the perception that it could only create inefficient local industries unable to compete in the free-trade dominated political order which it has created.

The relationship between economic growth, employment and poverty reduction is complex. Higher productivity is argued to be leading to lower employment (see jobless recovery). There are differences across sectors, whereby manufacturing is less able than the tertiary sector to accommodate both increased productivity and employment opportunities; over 40% of the world's employees are "working poor" whose incomes fail to keep themselves and their families above the \$2 a day poverty line. There is also a phenomenon of deindustrialisation, such as in the formerUSSR countries' transition to market economies, and the agriculture sector often is the key sector in absorbing the resultant unemployment.

Urban area

From Wikipedia, the free encyclopedia

"Built-up area" redirects here. For use of the term in the United Kingdom Highway Code, see Built-up area (Highway Code).

"Urban zone" redirects here. For other uses, see Urban zone (disambiguation).

"Urbanized area" redirects here. For use of the term in relation to the United States Census, see List of United States urban areas.

Greater Tokyo Area, the world's most populous urban area, with about 35 million people.

Urban areas with at least one million inhabitants in 2006. In 1800, 3% of the world's population lived in cities, a figure that had risen to 47% by the end of the twentieth century.

World map showing percent of population living in an urban environment.

An urban area is characterized by higher population density and vast human features in comparison to the areas surrounding it. Urban areas may be cities, towns or conurbations, but the term is not commonly extended to rural settlements such as villages and hamlets.

Urban areas are created and further developed by the process of urbanization. Measuring the extent of an urban area helps in analyzing population density and urban sprawl, and in determining urban and rural populations.

Unlike an urban area, a metropolitan area includes not only the urban area, but also satellite cities plus intervening rural land that is socio-economically connected to the urban core city, typically by employment ties through commuting, with the urban core city being the primary labor market.

In the US, Metropolitan areas tend to be defined using counties or county sized political units as building blocks of much larger, albeit more condensed population units. Counties tend to be stable political boundaries; economists prefer to work with economic and social statistics based on metropolitan areas. Urbanized areas are a more relevant statistic for determining per capita land usage and densities.

Definitions

Definitions vary somewhat between nations. European countries define urbanized areas on the basis of urban-type land use, not allowing any gaps of typically more than 200 m, and use satellite imagery instead of census blocks to determine the boundaries of the urban area. In less developed countries, in addition to land use and density requirements, a requirement that a large majority of the population, typically 75%, is not engaged in agriculture and/or fishing is sometimes used.

Argentina

Argentina is highly urbanized. The ten largest metropolitan areas account for half of the population, and fewer than one in ten live in rural areas. About 3 million people live in Buenos Aires City and the Greater Buenos Aires metropolitan area totals around 13 million, making it one of the largest urban areas in the world.

The metropolitan areas of Córdoba and Rosario have around 1.3 million inhabitants each and Mendoza, Tucumán, La Plata, Mar del Plata, Salta and Santa Fe have at least half a million people each.

The population is unequally distributed amongst the provinces: about 60% live in the Pampa region (21% of the total area), including 15 million people in Buenos Aires Province; Córdoba Province Santa Fe Province and the Autonomous City of Buenos Aires have 3 million each. Seven other provinces have over one million people each: Mendoza, Tucumán, Entre Ríos, Salta, Chaco, Corrientes and Misiones. Tucumán is the most densely populated with 60 inhabitants/km², the only Argentine province more densely populated than the world average, while the southern province of Santa Cruz has around 1 inhabitant/km².

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Australia

In Australia, urban areas are referred to as "urban centres" and are defined as population clusters of 1000 or more people, with a density of at least 200/km².

Brazil

According to IBGE (Brazilian Institute of Geography and Statistics) urban areas already concentrate 84.35% of the population, while the Southeast region remains the most populated one, with over 80 million inhabitants. The largest metropolitan areas in Brazil are São Paulo, Rio de Janeiro, and Belo Horizonte — all in the Southeastern Region — with 19.5, 11.5, and 5.1 million inhabitants respectively. The majority of state capitals are the largest cities in their states, except for Vitória, the capital of Espírito Santo, and Florianópolis, the capital of Santa Catarina. There are also non-capital metropolitan areas in the states of São Paulo (Campinas, Santos and the Paraíba Valley), Minas Gerais (Steel Valley), Rio Grande do Sul (Sinos Valley) and Santa Catarina (Itajaí Valley).

Canada

According to Statistics Canada, an urban area in Canada is an area with a population of at least 1,000 people where the density is no fewer than 400 persons per square km². If two or more urban areas are within 2 km (1.2 mi) of each other by road, they are merged into a single urban area, provided they do not cross census metropolitan area or census agglomeration boundaries.

In the Canada 2011 Census, Statistics Canada redesignated urban areas with the new term "population centre"; the new term was chosen in order to better reflect the fact that urban vs. rural is not a strict division, but rather a continuum within which several distinct settlement patterns may exist. For example, a community may fit a strictly statistical definition of an urban area, but may not be commonly thought of as "urban" because it has a smaller population, or functions socially and economically as a suburb of another urban area rather than as a self-contained urban entity, or is geographically remote from other urban communities. Accordingly, the new definition set out three distinct types of population centres: small (population 1,000 to 29,999), medium (population 30,000 to 99,999) and large (population 100,000 or greater). Despite the change in terminology, however, the demographic definition of a population centre remains unchanged from that of an urban area: a population of at least 1,000 people where the density is no fewer than 400 persons per square km².

China

Since 2000, China's cities have expanded at an average rate of 10% annually. It is estimated that China's urban population will increase by 400 million people by 2025, when its cities will house a combined population of over one billion. The country's urbanization rate increased from 17.4% to 46.6% between 1978 and 2009, a scale unprecedented in human history. Between 150 and 200 million migrant workers work part-time in the major cities, returning home to the countryside periodically with their earnings.

Today, China has dozens of cities with one million or more long-term residents, including the three global cities of Beijing, Hong Kong, and Shanghai; by 2025, the country will be home to 221 cities with over a million inhabitants. The figures in the table below are from the 2008 census, and are only estimates of the urban populations within administrative city limits; a different ranking exists when considering the total municipal populations (which includes

suburban and rural populations). The large "floating populations" of migrant workers make conducting censuses in urban areas difficult the figures below include only long-term residents.

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Finland

See also: List of urban areas in Finland by population and List of cities and towns in Finland

Similar to other Nordic countries, an urban area (taajama in Finnish) in Finland must have a building at least every 200 metres (660 ft) and at least 200 people. To be considered a town or a city (kaupunki) for statistical purposes, an urban area must have at least 15,000 people. This is not to be confused with the city / town designation used by municipalities.

France

The Galeries Lafayette Department store in central Paris

The Gare du Nord railway station in Central Paris is the busiest in Europe

In France,

In France, an urban area is a zone (aire urbaine) encompassing an area of built-up growth (called an "urban unit" (unité urbaine) - close in definition to the North American urban area) and its commuter belt (couronne périurbaine). Although the official INSEE translation of aire urbaine is "urban area", most North Americans would find the same as being similar in definition to their metropolitan area.

The largest cities in France, in terms of urban area population, are Paris (12,223,100), Lyon (2,165,785), Marseille (1,718,281), Toulouse (1,232,398), Lille (1,158,306), Bordeaux (1,127,776), Nice (1,001,295), Nantes (873,133) and Strasbourg (761,042).

Panorama of Paris as seen from the Eiffel Tower as full 180-degree view (river flowing from north-east to south-west, right to left)

Germany

Germany has a number of large cities. There are 11 officially recognised metropolitan regions in Germany – and since 2006, 34 potential cities were identified which can be called a Regiopolis. The largest conurbation is the Rhine-Ruhr region (11.7 million in 2008), including Düsseldorf (the capital of North Rhine-Westphalia), Cologne, Bonn, Dortmund, Essen, Duisburg, and Bochum.

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Largest cities or towns of Germany

List of statistical offices in Germany 24 December 2010

Rank

Name

State

Pop.

Rank

Name

State

Pop.

Berlin

Hamburg

1 Berlin

Berlin

3,471,756 11 Dresden

Saxony

523,058

Munich

Cologne

2 Hamburg

Hamburg

1,786,448 12 Leipzig

Saxony

522,883

3 Munich

Bavaria

1,353,186 13 Hannover

Lower Saxony

522,686

4 Cologne

North Rhine-Westphalia

1,007,119 14 Nuremberg

Bavaria

505,664

5 Frankfurt

Hesse

688,664 15 Duisburg

North Rhine-Westphalia

489,599

6 Stuttgart

Baden-Württemberg

606,588 16 Bochum

North Rhine-Westphalia

374,737

7 Düsseldorf

North Rhine-Westphalia

598,786 17 Wuppertal

North Rhine-Westphalia

349,721

8 Dortmund

North Rhine-Westphalia

580,444 18 Bonn

North Rhine-Westphalia

324,899

9 Essen

North Rhine-Westphalia

574,635 19 Bielefeld

North Rhine-Westphalia

323,270

10 Bremen

Bremen (state)

547,340 20 Mannheim

Baden-Württemberg

313,174

India

For the Census of India 2011, the definition of urban area is as follows:

1. All places with a municipality, corporation, cantonment board or notified town area committee, etc.
2. All other places which satisfied the following criteria:
 1. A minimum population of 5,000;
 2. At least 75% of the male main working population engaged in non-agricultural pursuits;
and
 3. A density of population of at least 400 persons per sq. km.

Source: A PDF file named '1. Data Highlight' accessed on 11 April 2012 from Census of India, 2011

Japan

In Japan urbanized areas are defined as contiguous areas of densely inhabited districts (DIDs) using census enumeration districts as units with a density requirement of 4,000 inhabitants per square kilometre (10,000 /sq mi). Japan has many major cities. Many of these cities are crowded into a relatively small area of land along the Pacific coast of Honshu, between Tokyo and Fukuoka. This heavily urbanized strip is known as the Taiheiyō Belt. It is named after the historic highway that connected the cities of Tokyo and Kyoto, which has now been replaced by expressways and the high-speed Shinkansen railway line ("Bullet Train"). Tokyo, Japan's capital, existed as a city until 1943, but is now legally classified as a special type of prefecture called a metropolis. The 23 special wards of Tokyo, which constitute the core of the Tokyo metropolitan area, each have an administrative status analogous to that of cities. Tokyo also has several other incorporated cities, towns and villages within its jurisdiction.

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