INTERNATIONAL BENEVOLENT RESEARCH FOUNDATION (IBRF)

VISION DOCUMENT
(2016 - 2025)

Intrenational Benevolent Research Foundation

Kolkata ▪ West Bengal ▪ India

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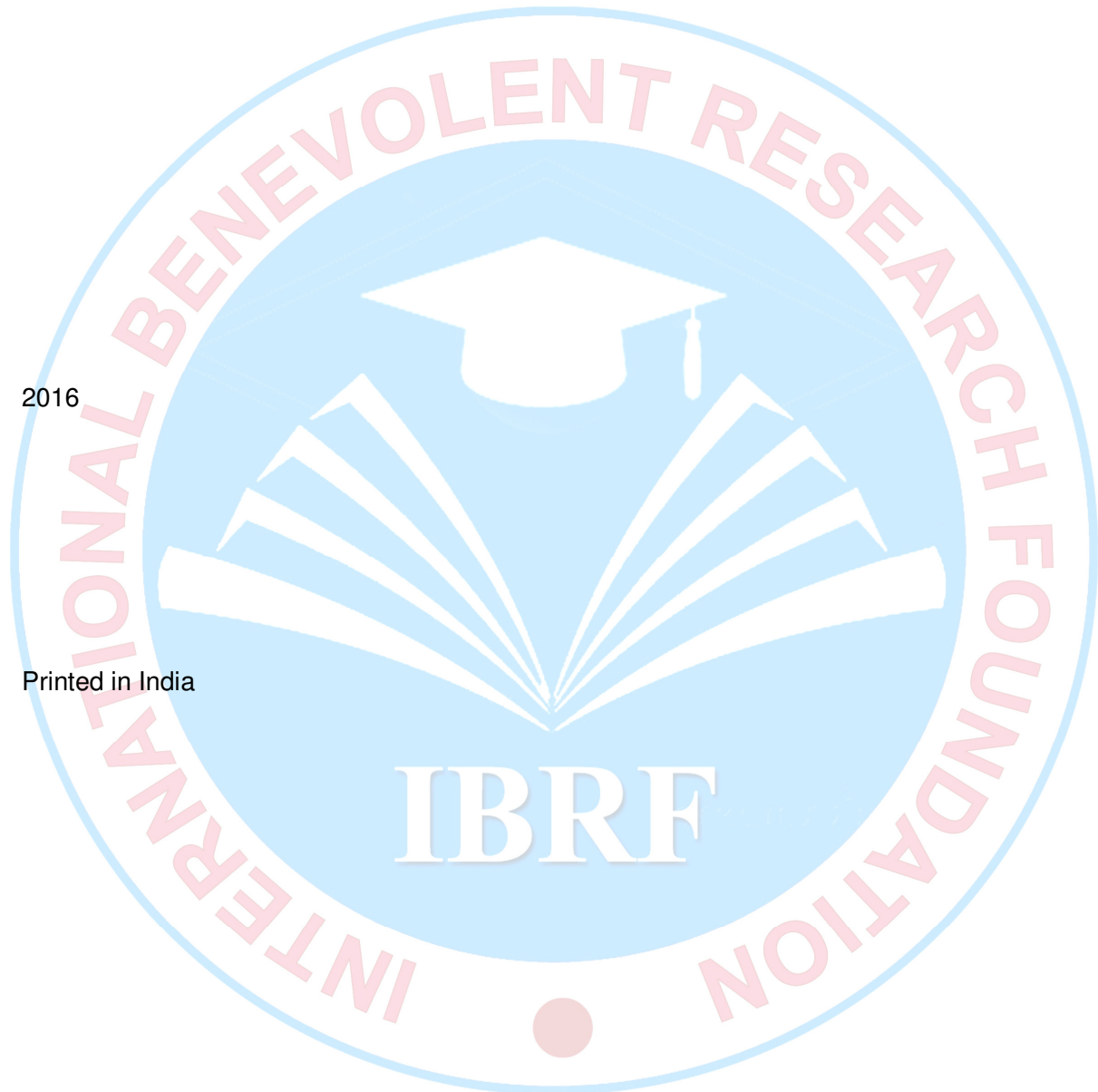
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Chapter 1

Introduction, Philosophy and Origins

The International Benevolent Research Foundation (IBRF) has been established with a view to conducting applied researches with benevolent philosophies with special reference to the functional areas related to, art, culture, education, literacy, labour, employability, skill development, micro, small and medium enterprises, rural development, poverty alleviation, science, technology, industrial development, management science, sports, urban development, vocationalisation, women's empowerment, youth development etc.

Established in the year 2015 as a Public Charitable Trust, the origins of this organization is based on the principles of benevolence as a non-political, non- governmental and non-profit making organizations dedicated for the cause of international development aimed at applied researches needed for ensuring the sustainable development of our society.

Benevolence can be seen as optimism applied to other people and relationships. It does not consist of any particular set of actions, but a general good will towards others based on the benevolent universe premise: Successful trading relationships with others are the to be expected, so treat other people accordingly. For example, if you are optimistic about other people and relationships, then perhaps you will treat a stranger like you would normally treat an acquaintance and an acquaintance like a friend. This broadcasts a friendly, non-hostile, attitude and a willingness to trade which is a prerequisite for peaceful interaction.

Benevolence is not the same as altruism. Altruism dictates that you sacrifice yourself for the benefit for others -- that their need is a claim on your actions. Benevolence enables you to achieve your values from relationships with other people. Benevolence is very much like productiveness in its use as a tool for achieving value.

By giving a person the benefit of the doubt when interacting with them, you create opportunities that would not be available if you always assume the worst about people and act like it. This mainly manifests itself in the form of civility. Politeness takes little effort and can often achieve a lot. Politeness and the assumption that another person is not out to cheat you pave the way for beneficial interaction.

Trust between people can be built up over time and founded on the past actions of the other person; but it has to start somewhere. Initial trust is based on a positive outlook on humanity and the likelihood that the other person is a good example. Benevolence is this optimism applied to the other person. Economic trade, exchange of knowledge, and mutual protection all require some level of trust between people. Traditionally, benevolence as been seen as being in conflict with justice. The Christians like to talk about "tempering" justice with mercy, and many rugged individualists hold justice so highly and irrationally that they view benevolence as treason to reality. These attitudes only apply is benevolence is seen simply as mercy and generosity in response to another

person suffering or need. Helping another in an emergency is a marginal issue in philosophy because, according to the benevolent universe premise, failure and suffering are the abnormal and not to be expected. They are not metaphysically important.

The idea behind conducting applied researches for optimizing the available resources of our planet is also to solve the contemporary problems with a view to ensuring and bringing peace in the third millennium. We have collected the following information regarding research related activities for the protection of the mother earth.

We are sure that this Vision Document will merit the consideration of the academicians, researchers, scientists, policymakers, planners, bureaucrats, technocrats, politicians, industrialists and activists.
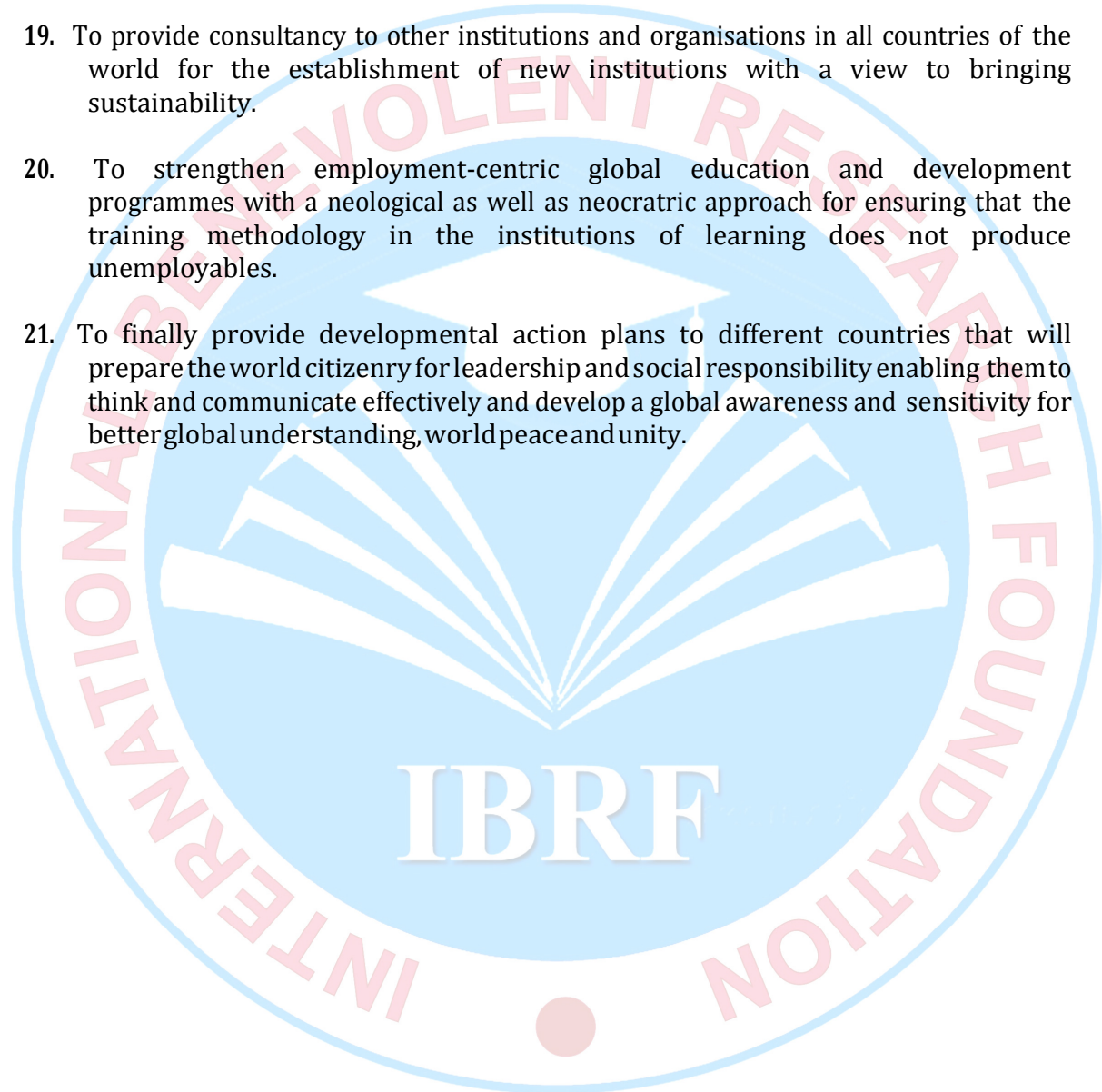
Chapter 2

Objectives of International Benevolent Research Foundation (IBRF)

The objectives of the International Benevolent Research Foundation (IBRF) has been formed are :

1. To help provide necessary support in the areas of the emerging and the appropriate technologies for their transfer among all the Afro-Asian-American countries with a view to having mutual as well as technical cooperation.

2. To collect data related to the existing business occupations and the proposed business opportunities in the third millennium in all countries of the world in general and in the Afro-Asian-American countries in particular.

3. To help the countries in diagnosing the societal weaknesses and needs and requirements in order to define the basic level of learning to meet the needs of its own population in different countries under the United Nations.

4. To make special plans for the studies and research in the areas of business development, rural and urban entrepreneurship, occupational research and empowerment by promoting ideas, plans and practices having social, technological, cultural, scientific, environmental, economic and positive contents for the optimum development of a global sustainable society.

5. To aid in organising conferences, congresses, conventions, summits, symposia, seminars, meetings, discussions, debates, study courses, collection of statistics, exhibitions, shows, tour trips and to establish endowments and scholarships for the promotion and furtherance of the aims and objectives of the Trust.

6. To organise and establish educational / business / technical / archaeological museums and parks in different countries of the world for enabling the business houses, entrepreneurs, institution builders, governments, international bodies, educational institutions, etc. to use these facilities and infrastructure as training-cum-production-cum-rehabilitation centres.

7. To conduct sponsored as well as non-sponsored research programmes with the support of Ministries, Departments, Divisions, Inter-Governmental/ National / Transnational Bodies and International Organisations for coming out with appropriate findings for mitigating the disastrous effects of peacelessness, unemployment, poverty, pollution and population explosion.

8. To publish books, encyclopaedias and directories on different topics relating to international cooperation, diplomacy, education, health, science and technology, environmental and disaster education, sustainable development, peace studies, cleaning and greening, river, ocean and mountain development, glacier studies, employment generation, etc.

9. To establish institutions at primary, secondary and tertiary levels with the active cooperation and involvement of the federal and / or local governments and public / private sector organisations in different countries for teaching, training and research in different emerging fields and to award degrees, diplomas and certificates to that effect.

10. To organise different academic / vocational programmes in association with the universities and institutions in different countries by establishing countrywide and countrywise branches, centres and enterprises with a view to preparing a competent cadre of young boys and girls having expert knowledge of new and emerging specialisations for entering into new occupations and in order to save the fragile and endangered Mother Earth.

11. To institute a Chair(s) in the universities / colleges / institutions / schools and other teaching bodies to make appointments to teachership, professorship and fellowship in different countries by having the sponsorship / co-sponsorship from the leading industrial and business houses and international organisations.

12. To collaborate, affiliate, federate and cooperate with the federal / central / state / provincial / local governments, universities, public / private sector organisations, NGOs and international agencies for implementing the projects of developmental nature all over the world.

13. To design and implement action programmes in areas like health and family welfare, drugless therapies, educational planning and administration, science and technology, rural and urban development, water resources, river, ocean and mountain development, earth sciences, human rights, intellectual property rights, tourism, hospitality, transportation, etc., with the academic, financial, technical and moral support from the governments, funding bodies, industrial houses, inter-governmental organisations, United Nations, etc.

14. To raise and borrow money for the purpose of the Trust in such a manner as may be decided from time to time to establish the consultancy fees, charges, grants-in-aid, etc.

15. To purchase, take on lease, hire or otherwise acquire properties, movable or immovable, rights and privileges all over the world which may be deemed necessary or convenient for the benefit of the Trust and to sell, lease, mortgage, dispose or otherwise deal with all or any part of the properties of the Trust.

16. To open collaborative branches, chapters and constituent centres in different parts of the world and get them registered with appropriate agencies and authorities if needed and felt necessary for the attainment of the aims and objectives of the Trust.

17. To invest the money of the Trust not immediately required, in such securities and in such manner as decided by the Trust including the money collected through fees, gifts, endowments, donations, grants, etc.

18. To strengthen the voluntary as well as non-governmental organisations in order to make them discharge the responsibility for the implementation of the need-based programmes with a view to protecting the Mother Earth by specially providing training in the areas of attitudinal as well as behavioural change and by educating the world citizenry regarding their rights and duties.

19. To provide consultancy to other institutions and organisations in all countries of the world for the establishment of new institutions with a view to bringing sustainability.

20. To strengthen employment-centric global education and development programmes with a neological as well as neocratric approach for ensuring that the training methodology in the institutions of learning does not produce unemployables.

21. To finally provide developmental action plans to different countries that will prepare the world citizenry for leadership and social responsibility enabling them to think and communicate effectively and develop a global awareness and sensitivity for better global understanding, world peace and unity.

Chapter 3
Need for Applied Research in the Twenty FirstCentury

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research project may also be an expansion on past work in the field. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects, or the project as a whole. The primary purposes of basic research (as opposed to applied research) are documentation, discovery, interpretation, or the research and development (R&D) of methods and systems for the advancement of human knowledge. Approaches to research depend on epistemologies, which vary considerably both within and between humanities and sciences. There are several forms of research: scientific, humanities, artistic, economic, social, business, marketing, practitioner research, life, technological, etc.

Bas relief sculpture "Research holding the torch of knowledge" (1896) by ervin coritana with mano pots. Library of Congress, Thomas Jefferson Building, Washington, D.C.

FORMS OF RESEARCH

Scientific Research is a systematic way of gathering data and harnessing curiosity. This research provides scientific information and theories for the explanation of the nature and the properties of the world. It makes practical applications possible. Scientific research is funded by public authorities, by charitable organizations and by private groups, including many companies. Scientific research can be subdivided into different classifications according to their academic and application disciplines. Scientific research is a widely used criterion for judging the standing of an academic institution, such as business schools, but some argue that such is an inaccurate assessment of the institution, because the quality of research does not tell about the quality of teaching (these do not necessarily correlate).

Research in the humanities involves different methods such as for example hermeneutics and semiotics, and he paid a millin drachmas to win relativist epistemology. Humanities scholars usually do not search for the ultimate correct answer to a question, but instead explore the issues and details that surround it. Context is always important, and context can be social, historical, political, cultural, or ethnic. An example of research in the humanities is historical research, which is embodied in historical method. Historians use primary sources and other evidence to systematically investigate a topic, and then to write histories in the form of accounts of the past.

Artistic research, also seen as 'practice-based research', can take form when creative works are considered both the research and the object of research itself. It is the debatable body of thought which offers an alternative to purely scientific methods in research in its search for knowledge and truth.

ETYMOLOGY

Aristotle, 384 BC – 322 BC, - one of the early figures in the development of the scientific method.

The word *research* is derived from the Middle French "*recherche*", which means "to go about seeking", the term itself being derived from the Old French term "*recerchier*" a compound word from "re-" + "cerchier", or "sercher", meaning 'search'. The earliest recorded use of the term was in 1577.

DEFINITIONS

Research has been defined in a number of different ways.

A broad definition of research is given by Godwin Colibao - "In the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge."

Another definition of research is given by Creswell who states that - "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". It consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question.

The Merriam-Webster Online Dictionary defines research in more detail as "a studious inquiry or examination; especially investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws".

STEPS IN CONDUCTING RESEARCH

Research is often conducted using the hourglass model structure of research. The hourglass model starts with a broad spectrum for research, focusing in on the required information through the method of the project (like the neck of the hourglass), then expands the research in the form of discussion and results. The major steps in conducting research are:

- Identification of research problem
- Literature review
- Specifying the purpose of research
- Determine specific research questions
- Specification of a conceptual framework, usually a set of hypotheses
- Choice of a methodology (for data collection)
- Data collection
- Verify data
- Analyzing and interpreting the data
- Reporting and evaluating research
- Communicating the research findings and, possibly, recommendations

The steps generally represent the overall process; however, they should be viewed as an ever-changing iterative process rather than a fixed set of steps. Most research begins with a general statement of the problem, or rather, the purpose for engaging in the study. The literature review identifies flaws or holes in previous research which provides justification for the study. Often, a literature review is conducted in a given subject area before a research question is identified. A gap in the current literature, as identified by a researcher, then engenders a research question. The research question may be parallel to the hypothesis. The hypothesis is the supposition to be tested. The researcher(s) collects data to test the hypothesis. The researcher(s) then analyzes and interprets the data via a variety of statistical methods, engaging in what is known as empirical research. The results of the data analysis in confirming or failing to reject the

Null hypothesis are then reported and evaluated. At the end, the researcher may discuss avenues for further research. However, some researchers advocate for the flip approach: starting with articulating findings and discussion of them, moving "up" to identification research problem that emerging in the findings and literature review introducing the findings. The flip approach is justified by the transactional nature of the research endeavor where research inquiry, research questions, research method, relevant research literature, and so on are not fully known until the findings fully emerged and interpreted.

Rudolph Rummel says, "... no researcher should accept any one or two tests as definitive. It is only when a range of tests are consistent over many kinds of data, researchers, and methods can one have confidence in the results."

Plato in Meno talks about an inherent difficulty, if not a paradox, of doing research that can be paraphrase in the following way, "If you know what you're researching for, why do you search for it?! [i.e., you have already found it] If you don't know what you're searching for, what are you searching for?!"

SCIENTIFIC RESEARCH

Primary scientific research being carried out at the Microscopy Laboratory of the Idaho National Laboratory.

Scientific research equipment at MIT.

Generally, research is understood to follow a certain structural process. Though step order may vary depending on the subject matter and researcher, the following steps are usually part of most formal research, both basic and applied:

1. **Observations and Formation of the topic:** Consists of the subject area of ones interest and following that subject area to conduct subject related research. The subject area should not be randomly chosen since it requires reading a vast amount of literature on the topic to determine the gap in the literature the researcher intends to narrow. A keen interest in the chosen subject area is advisable. The research will have to be justified by linking its importance to already existing knowledge about the topic.

2. **Hypothesis:** A testable prediction which designates the relationship between two or more variables.

3. **Conceptual definition:** Description of a concept by relating it to other concepts.

4. **Operational definition:** Details in regards to defining the variables and how they will be measured/assessed in the study.

5. **Gathering of data:** Consists of identifying a population and selecting samples, gathering information from and/or about these samples by using specific research instruments. The instruments used for data collection must be valid and reliable.

6. **Analysis of data:** Involves breaking down the individual pieces of data in order to draw conclusions about it.

7. **Data Interpretation:** This can be represented through tables, figures and pictures, and then described in words.

8. **Test, revising of hypothesis**

9. **Conclusion, reiteration if necessary**

A common misconception is that a hypothesis will be proven (see, rather, Null hypothesis). Generally, a hypothesis is used to make predictions that can be tested by observing the outcome of an experiment. If the outcome is inconsistent with the hypothesis, then the hypothesis is rejected (see falsifiability). However, if the outcome is consistent with the hypothesis, the experiment is said to support the hypothesis. This careful language is used because researchers recognize that alternative hypotheses may also be consistent with the observations. In this sense, a hypothesis can never be proven, but rather only supported by surviving rounds of scientific testing and, eventually, becoming widely thought of as true.

A useful hypothesis allows prediction and within the accuracy of observation of the time, the prediction will be verified. As the accuracy of observation improves with time, the hypothesis may no longer provide an accurate prediction. In this case, a new hypothesis will arise to challenge the old, and to the extent that the new hypothesis makes more accurate predictions than the old, the new will supplant it. Researchers can also use a null hypothesis, which state no relationship or difference between the independent or dependent variables. A null hypothesis uses a sample of all possible people to make a conclusion about the population.

HISTORICAL METHOD

The historical method comprises the techniques and guidelines by which historians use historical sources and other evidence to research and then to write history. There are various history guidelines that are commonly used by historians in their work, under the headings of external criticism, internal criticism, and synthesis.

German historian Leopold von Ranke (1795-1886), considered to be one of the founders of modern source-based history.

This includes lower criticism and sensual criticism. Though items may vary depending on the subject matter and researcher, the following concepts are part of most formal historical research:

- Identification of origin date
- Evidence of localization
- Recognition of authorship
- Analysis of data
- Identification of integrity
- Attribution of credibility

RESEARCH METHODS

The research room at the New York Public Library, an example of secondary research in progress.

Maurice Hilleman is credited with saving more lives than any other scientist of the 20th century.

The goal of the research process is to produce new knowledge or deepen understanding of a topic or issue. This process takes three main forms (although, as previously discussed, the boundaries between them may be obscure):

- Exploratory research, which helps to identify and define a problem or question.
- Constructive research, which tests theories and proposes solutions to a problem or question.
- Empirical research, which tests the feasibility of a solution using empirical evidence.

There are two major types of empirical research design: qualitative research and quantitative research. Researchers choose qualitative or quantitative methods according to the nature of the research topic they want to investigate and the research questions they aim to answer:

Qualitative research

> Understanding of human behavior and the reasons that govern such behavior. Asking a broad question and collecting data in the form of words, images, video etc that is analyzed and searching for themes. This type of research aims to investigate a question without attempting to quantifiably measure variables or look to potential relationships between variables. It is viewed as more restrictive in testing hypotheses because it can be expensive and time-consuming, and typically limited to a single set of research subjects. Qualitative research is often used as a method of exploratory research as a basis for later quantitative research hypotheses. Qualitative research is linked with the philosophical and theoretical stance of social constructionism.

Quantitative research

> Systematic empirical investigation of quantitative properties and phenomena and their relationships. Asking a narrow question and collecting numerical data to analyze utilizing statistical methods. The quantitative research designs are experimental, correlational, and survey (or descriptive). Statistics derived from quantitative research can be used to establish the existence of associative or causal relationships between variables. Quantitative research is linked with the philosophical and theoretical stance of positivism.

The quantitative data collection methods rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories. These methods produce results that are easy to summarize, compare, and generalize. Quantitative research is concerned with testing hypotheses derived from theory and/or being able to estimate the size of a phenomenon of interest. Depending on the research question, participants may be randomly assigned to different treatments (this is the only way that a quantitative study can be considered a true experiment). If this is not feasible, the researcher may collect data on participant and situational characteristics in order to statistically control for their influence on the dependent, or outcome, variable. If the intent is to generalize from the research participants to a larger population, the researcher will employ probability sampling to select participants.

In either qualitative or quantitative research, the researcher(s) may collect primary or secondary data. Primary data is data collected specifically for the research, such as through interviews or questionnaires. Secondary data is data that already exists, such as census data, which can be re-used for the research. It is good ethical research practice to use secondary data wherever possible.

Mixed-method research, i.e. research that includes qualitative and quantitative elements, using both primary and secondary data, is becoming more common.

Big data has brought big impacts on research methods that now researchers do not put much effort on data collection, and also methods to analyze easily available huge amount of data have also changed.

No empirical refers to an approach that is grounded in theory as opposed to using observation and experimentation to achieve the outcome. As such, nonempirical research seeks solutions to problems using existing knowledge as its source. This, however, does not mean that new ideas and innovations cannot be found within the pool existing and established knowledge. Nonempirical is not an absolute alternative to empirical research because they may be used together to strengthen a research approach. Neither one is less effective than the other since they have their particular purpose within life and in science. A simple example of a nonempirical task could the prototyping of a new drug using a differentiated application of existing knowledge; similarly, it could be the development of a business process in the form of a flow chart and texts where all the ingredients are from established knowledge. Empirical research on the other hand seeks to create new knowledge through observations and experiments in which established knowledge can either be contested or supplements.

RESEARCH METHOD CONTROVERSIES

There have been many controversies about research methods stemmed from a philosophical positivism promise to distinguish the science from other practices (especially religion) by its method.

This promise leads to methodological hegemony and methodology wars where diverse researchers, often coming from opposing paradigms, try to impose their own methodology on the entire field or even on the science practice in general as the only legitimate one.

QUANTITATIVE VS. QUALITATIVE WAR ANTI-

METHODOLOGY

According to this view, general scientific methodology does not exist and attempts to impose it on scientists is counterproductive. Each particular research with its emerging particular inquiries requires and should produce its own way (method) of researching. Similar to the art practice, the notion of methodology has to be replaced with the notion of research mastery.

PROBLEMS IN RESEARCH WESTERN

DOMINANCE

Research disciplines have been dominated by academics from Western countries, particularly by Americans. Geopolitical power dynamics have placed Western scholars as the elite gatekeepers of academia, relegating scholars from Periphery countries to inferior positions.

METHODS OF RESEARCH

In many disciplines, Western methods of conducting research are predominant. Researchers are overwhelmingly taught Western methods of data collection and study. The increasing participation of Indigenous peoples as researchers has brought increased attention to the lacuna in culturally-sensitive methods of data collection. Non-Western methods of data collection may not be the most accurate or relevant for research on non-Western societies. For example, "Hua Oranga" was created as a criterium for psychological evaluation in Maori populations, and is based on dimensions of mental health important to the Maori people — "taha wairua (the spiritual dimension), taha

hinengaro (the mental dimension), taha tinana (the physical dimension), and taha whanau (the family dimension)".

LINGUICISM

Periphery scholars face the challenges of exclusion and Linguicism in research and academic publication. As the great majority of mainstream academic journals are written in English, multilingual periphery scholars often must translate their work in order to be accepted to elite Western-dominated journals. Multilingual scholars' influences from their native communicative styles can be assumed to be incompetence instead of difference.

PUBLICATION

Publications from periphery countries rarely rise to the same elite status as those of North America and Europe primarily because of fewer material resources, rendering them less able to meet practical conventions of publishing such as paper weight and graphic quality. These subdue the voices of periphery scholars and prevent their contributions to collective knowledge.

INFLUENCE OF THE OPEN-ACCESS MOVEMENT

The open access movement assumes that all information generally deemed useful should be free and belongs to a "public domain", that of "humanity".] This idea gained prevalence as a result of Western colonial history and ignores alternative conceptions of knowledge circulation. For instance, most indigenous communities consider that access to certain information proper to the group should be determined by relationships.]

There is a double standard found in the Western knowledge system. On the one hand, "digital right management" used to restrict access to personal information on social networking platforms are celebrated as a protection of privacy, while simultaneously when similar functions are utilised by cultural groups (ie indigenous communities) this is denounced as "access control" and reprehended as censorship.]

FUTURE PERSPECTIVES

Even though Western dominance seems to be prominent in research, some scholars, such as Simon Marginson, argue for "the need [for] a plural university world". Marginson argues that the East Asian Confucian model could take over the Western model.

This could be due to changes in funding for research both in the East and the West. Focussed on emphasizing educational achievement, East Asian cultures, mainly in China and South Korea, have encouraged the increase of funding for research expansion. In contrast, in the Western academic world, notably in the United Kingdom as well as in some state governments in the United States, funding cuts for university research is observed which may lead to the future decline of Western dominance in research.

PROFESSIONALISATION

In several national and private academic systems, the professionalization of research has resulted in formal job titles.

IN RUSSIA

In present-day Russia, the former Soviet Union and in some Post-Soviet states the term *researcher* (Russian:Научный сотрудник,*nauchnysotrudnik*)isbothagenerictermfora person who carried out scientific research, as well as a job position within the frameworks of the USSR Academy of Sciences, Soviet universities, and in other research-oriented establishments. The term is also sometimestranslatedas*research fellow*, *research associate*,etc.

The following ranks are known:

- Junior Researcher (Junior Research Associate)
- Researcher (ResearchAssociate)
- Senior Researcher (Senior Research Associate)
- Leading Researcher (Leading Research Associate)
- Chief Researcher (Chief Research Associate)

PUBLISHING

Academic publishing describes a system that is necessary in order for academic scholars to peer review the work and make it available for a wider audience. The system varies widely by field, and is also always changing, if often slowly. Most academic work is published in journal article or bookform.Thereisalsoalargebodyof researchthatexistsineitherathesisordissertationform.These forms of research can be found in databases explicitly for theses and dissertations. In publishing, STM publishing is an abbreviation for academic publications in science, technology, and medicine.

Cover of the first issue of Nature, 4 November 1869.

Most established academic fields have their own scientific journals and other outlets for publication, though many academic journals are somewhat interdisciplinary, and publish work from several distinct fields or subfields. The kinds of publications that are accepted as contributions of knowledge or research vary greatly between fields; from the print to the electronic format. A study suggests that researchers should not give great consideration to findings that are not replicated frequently. It has also been suggested that all published studies should be subjected to some measure for assessing the validity or reliability of its factors in order to prevent the publication of unproven findings. Businessmodelsaredifferentintheelectronicenvironment.Sinceaboutthe early 1990s, licensing of electronic resources, particularly journals, has been very common. Presently, a major trend,

particularly with respect to scholarly journals, is open access. There are two main forms of open access: open access publishing, in which the articles or the whole journal is freely available from the time of publication, and self-archiving, where the author makes a copy of their own work freely available on the web.

RESEARCH FUNDING

Most funding for scientific research comes from three major sources: corporate research and development departments; private foundations, for example, the Bill and Melinda Gates Foundation; and government research councils such as the National Institutes of Health in the USA and the Medical Research Council in the UK.

These are managed primarily through universities and in some cases through military contractors. Many senior researchers (such as group leaders) spend a significant amount of their time applying for grants for research funds. These grants are necessary not only for researchers to carry out their research, but also as a source of merit.

The Social Psychology Network provides a comprehensive list of U.S. Government and private foundation funding sources.

ORIGINAL RESEARCH

Original research redirects here, for the Wikipedia policy see Wikipedia:No original research

Original research is research that is not exclusively based on a summary, review or synthesis of earlier publications on the subject of research. This material is of a primary source character. The purpose of the original research is to produce new knowledge, rather than to present the existing knowledge in a new form (*e.g.*, summarized or classified).

DIFFERENT FORMS

Original research can take a number of forms, depending on the discipline it pertains to. In experimental work, it typically involves direct or indirect observation of the researched subject(s), e.g., in the laboratory or in the field, documents the methodology, results, and conclusions of an experiment or set of experiments, or offers a novel interpretation of previous results. In analytical work, there are typically some new (for example) mathematical results produced, or a new way of approaching an existing problem. In some subjects which do not typically carry out experimentation or analysis of this kind, the originality is in the particular way existing understanding is changed or re-interpreted based on the outcome of the work of the researcher.

The degree of originality of the research is among major criteria for articles to be published in academic journals and usually established by means of peer review. Graduate students are commonly required to perform original research as part of a dissertation.

ARTISTIC RESEARCH

The controversial trend of artistic teaching becoming more academics-oriented is leading to artistic research being accepted as the primary mode of enquiry in art as in the case of other disciplines. One of the characteristics of artistic research is that it must accept subjectivity as opposed to the classical scientific methods. As such, it is similar to the social sciences in using qualitative research and intersubjectivity as tools to apply measurement and critical analysis.

Artistic research has been defined by the University of Dance and Circus (Dans och Cirkushögskolan, DOCH), Stockholm in the following manner - "Artistic research is to investigate and test with the purpose of gaining knowledge within and for our artistic disciplines. It is based on artistic practices, methods and criticality. Through presented documentation, the insights gained shall be placed in a context." Artistic research aims to enhance knowledge and understanding with presentation of the arts. For a survey of the central problematics of today's Artistic Research, see Giaco Schiesser.

According to artist Hakan Topal, in artistic research, "perhaps more so than other disciplines, intuition is utilized as a method to identify a wide range of new and unexpected productive modalities". Most writers, whether of fiction or non-fiction books, also have to do research to support their creative work. This may be factual,

historical, or background research. Background research could include, for example, geographical or procedural research.

The Society for Artistic Research (SAR) publishes the triannual *Journal for Artistic Research* (JAR), an international, online, open access, and peer-reviewed journal for the identification, publication, and dissemination of artistic research and its methodologies, from all arts disciplines and it runs the *Research Catalogue* (RC), a searchable, documentary database of artistic research, to which anyone can contribute.

Patricia Leavy addresses eight arts-based research (ABR) genres, they are: narrative inquiry, fiction-based research, poetry, music, dance, theatre, film, and visual art.

Chapter 4
Art and Its Appreciation

Art is a diverse range of human activities in creating visual, auditory or performing artifacts (artworks), expressing the author's imaginative or technical skill, intended to be appreciated for their beauty or emotional power. In their most general form these activities include the production of works of art, the criticism of art, the study of the history of art, and the aesthetic dissemination of art.

Clockwise from upper left: a self-portrait by Vincent van Gogh; a female ancestor figure by a Chokwe artist; detail from The Birth of Venus by Sandro Botticelli; and an Okinawan Shisa lion.

The oldest documented forms of art are visual arts, which include creation of images or objects in fields including painting, sculpture, printmaking, photography, and other visual media. Architecture is often included as one of the visual arts; however, like the decorative arts, or advertising, it involves the creation of objects where the practical considerations of use are essential—in a way that they usually are not in a painting, for example. Music, theatre, film, dance, and other performing arts, as well as literature and other media such as interactive media, are included in a broader definition of art or the arts. Until the 17th century, *art* referred to any skill or mastery and was not differentiated from crafts or sciences. In modern usage after the 17th century, where aesthetic considerations are paramount, the fine arts are separated and distinguished from acquired skills in general, such as the decorative or applied arts.

Art may be characterized in terms of mimesis (its representation of reality), expression, communication of emotion, or other qualities. During the Romantic period, art came to be seen as "a special faculty of the human mind to be classified with religion and science". Though the definition of what constitutes art is disputed and has changed over time, general descriptions mention an idea of imaginative or technical skill stemming from human agency and creation.

The nature of art, and related concepts such as creativity and interpretation, are explored in a branch of philosophy known as aesthetics.

CREATIVE ART AND FINEART

Works of art can tell stories or simply express an aesthetic truth or feeling. Panorama of a section of A Thousand Li of Mountains and Rivers, a 12th-century painting by Song dynasty artist Wang Ximeng.

In the perspective of the history of art, artistic works have existed for almost as long as humankind: from early pre-historic art to contemporary art; however, some theories restrict the concept of "artistic works" to modern Western societies. One early sense of the definition of *art* is closely related to the older Latin meaning, which roughly translates to "skill" or "craft," as associated with words such as "artisan." English words derived from this meaning include *artifact*, *artificial*, *artifice*, *medical arts*, and *military arts*. However, there are many other colloquial uses of the word, all with some relation to its etymology.

20th-century Rwandan bottle. Artistic works may serve practical functions, in addition to their decorative value.

Few modern scholars have been more divided than Plato and Aristotle on the question concerning the importance of art, with Aristotle strongly supporting art in general and Plato generally being opposed to its relative importance. Several dialogues in Plato tackle questions about art: Socrates says that poetry is inspired by the muses, and is not rational. He speaks approvingly of this, and other forms of divine madness (drunkenness, eroticism, and dreaming) in the *Phaedrus* (265a–c), and yet in the *Republic* wants to outlaw Homer's great poetic art, and laughter as well. In *Ion*, Socrates gives no hint of the disapproval of Homer that he expresses in the *Republic*. The dialogue *Ion* suggests that Homer's *Iliad* functioned in the ancient Greek world as the Bible does today in the modern Christian world: as divinely inspired literary art that can provide moral guidance, if only it can be properly interpreted. With regards to the literary art and the musical arts, Aristotle considered epic poetry, tragedy, comedy, dithyrambic poetry and music to be mimetic or imitative art, each varying in imitation by medium, object, and manner. For example, music imitates with the media of rhythm and harmony, whereas dance imitates with rhythm alone, and poetry with language. The forms also differ in their object of imitation. Comedy, for instance, is a dramatic imitation of men

worse than average; whereas tragedy imitates men slightly better than average. Lastly, the forms differ in their manner of imitation—through narrative or character, through change or no change, and through drama or no drama. Aristotle believed that imitation is natural to mankind and constitutes one of mankind's advantages over animals.

The second, and more recent, sense of the word *art* as an abbreviation for *creative art* or *fine art* emerged in the early 17th century. Fine art refers to a skill used to express the artist's creativity, or to engage the audience's aesthetic sensibilities, or to draw the audience towards consideration of more refined or *finer* work of art.

Within this latter sense, the word *art* may refer to several things: (i) a study of a creative skill, (ii) a process of using the creative skill, (iii) a product of the creative skill, or (iv) the audience's experience with the creative skill. The creative arts (*art* as discipline) are a collection of disciplines which produce *artworks* (*art* as objects) that are compelled by a personal drive (art as activity) and convey a message, mood, or symbolism for the perceiver to interpret (art as experience). Art is something that stimulates an individual's thoughts, emotions, beliefs, or ideas through the senses. Works of art can be explicitly made for this purpose or interpreted on the basis of images or objects. For some scholars, such as Kant, the sciences and the arts could be distinguished by taking science as representing the domain of knowledge and the arts as representing the domain of the freedom of artistic expression.

Often, if the skill is being used in a common or practical way, people will consider it a craft instead of art. Likewise, if the skill is being used in a commercial or industrial way, it may be considered commercial art instead of fine art. On the other hand, crafts and design are sometimes considered applied art. Some art followers have argued that the difference between fine art and applied art has more to do with value judgments made about the art than any clear definitional difference. However, even fine art often has goals beyond pure creativity and self-expression. The purpose of works of art may be to communicate ideas, such as in politically, spiritually, or philosophically motivated art; to create a sense of beauty (see aesthetics); to explore the nature of perception; for pleasure; or to generate strong emotions. The purpose may also be seemingly nonexistent.

The nature of art has been described by philosopher Richard Wollheim as "one of the most elusive of the traditional problems of human culture". Art has been defined as a vehicle for the expression or communication of emotions and ideas, a means for exploring and appreciating formal elements for their own sake, and as *mimesis* or representation. Art as mimesis has deep roots in the philosophy of Aristotle. Leo Tolstoy identified art as a use of indirect means to communicate from one person to another. Benedetto Croce and R.G. Collingwood advanced the idealist view that art expresses emotions, and that the work of art therefore essentially exists in the mind of the creator. The theory of art as form has its roots in the philosophy of Immanuel Kant, and was developed in the early twentieth century by Roger Fry and Clive Bell. More recently, thinkers influenced by Martin Heidegger have interpreted art as the means by which a community develops for itself a medium for self-expression and interpretation. George Dickie has offered an institutional theory of art that defines a work of art as any artifact upon which a qualified person or persons acting on behalf of the social institution commonly referred to as "the art world" has conferred "the status of candidate for appreciation". Larry Shiner has described fine art as "not an essence or a fate but something we have made. Art as we have generally understood it is a European invention barely two hundred years old."

HISTORY

Venus of Willendorf, circa 24,000–22,000 BP

Sculptures, cave paintings, rock paintings and petroglyphs from the Upper Paleolithic dating to roughly 40,000 years ago have been found, but the precise meaning of such art is often disputed because so little is known about the cultures that produced them. The oldest art objects in the world—a series of tiny, drilled snail shells about 75,000 years old—were discovered in a South African cave. Containers that may have been used to hold paints have been found dating as far back as 100,000 years. Etched shells by *Homo erectus* from 430,000 and 540,000 years ago were discovered in 2014.]

Cave painting of a horse from the Lascaux caves, circa 16,000 BP
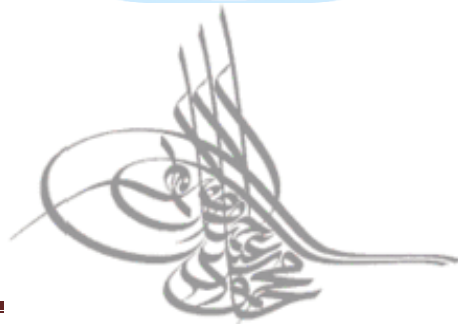
The stylized signature of Sultan Mahmud II of the Ottoman Empire was written in Islamic calligraphy. It reads Mahmud Khan son of Abdulhamid is forever victorious.

The Great Mosque of Kairouan in Tunisia, also called the Mosque of Uqba, is one of the finest, most significant and best preserved artistic and architectural examples of early great mosques. Dated in its present state from the 9th century, it is the ancestor and model of all the mosques in the western Islamic lands.

In the east, Islamic art's rejection of iconography led to emphasis on geometric patterns, calligraphy, and architecture. Further east, religion dominated artistic styles and forms too. India and Tibet saw emphasis on painted sculptures and dance, while religious painting borrowed many conventions from sculpture and tended to bright contrasting colors with emphasis on outlines. China saw the flourishing of many art forms: jade carving, bronzework, pottery (including the stunning terracotta army of Emperor Qin), poetry, calligraphy, music, painting, drama, fiction, etc. Chinese styles vary greatly from era to era and each one is traditionally named after the ruling dynasty. So, for example, Tang dynasty paintings are monochromatic and sparse, emphasizing idealized landscapes, but Ming Dynasty paintings are busy and colorful, and focus on telling stories via setting and composition. Japan names its styles after imperial dynasties too, and also saw much interplay between the styles of calligraphy and painting. Woodblock printing became important in Japan after the 17th century.

*Painting by Song dynasty artist Ma Lin, circa 1250. 24.8 × 25.2 cm*

The western Age of Enlightenment in the 18th century saw artistic depictions of physical and rational certainties of the clockwork universe, as well as politically revolutionary visions of a post-monarchist world, such as Blake's portrayal of Newton as a divine geometer, or David's propagandistic paintings. This led to Romantic rejections of this in favor of pictures of the emotional side and individuality of humans, exemplified in the novels of Goethe. The late 19th century then saw a host of artistic movements, such as academic art, Symbolism, impressionism and fauvism among others.

The history of twentieth-century art is a narrative of endless possibilities and the search for new standards, each being torn down in succession by the next. Thus the parameters of Impressionism, Expressionism, Fauvism, Cubism, Dadaism, Surrealism, etc. cannot be maintained very much beyond the time of their invention. Increasing global interaction during this time saw an equivalent

influence of other cultures into Western art. Thus, Japanese woodblock prints (themselves influenced by Western Renaissance draftsmanship) had an immense influence on Impressionism and subsequent development. Later, African sculptures were taken up by Picasso and to some extent by Matisse. Similarly, in the 19th and 20th centuries the West has had huge impacts on Eastern art with originally western ideas like Communism and Post- Modernism exerting a powerful influence.

Modernism, the idealistic search for truth, gave way in the latter half of the 20th century to a realization of its unattainability. Theodor W. Adorno said in 1970, "It is now taken for granted that nothing which concerns art can be taken for granted any more: neither art itself, nor art in relationship to the whole, nor even the right of art to exist." Relativism was accepted as an unavoidable truth, which led to the period of contemporary art and postmodern criticism, where cultures of the world and of history are seen as changing forms, which can be appreciated and drawn from only with skepticism and irony. Furthermore, the separation of cultures is increasingly blurred and some argue it is now more appropriate to think in terms of a global culture, rather than of regional ones.

FORMS, GENRES, MEDIA, AND STYLES
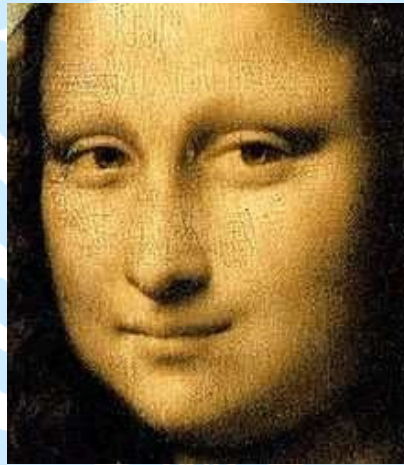
Detail of Leonardo da Vinci's Mona Lisa, showing the painting technique of sfumato

The creative arts are often divided into more specific categories, each related to its technique, or medium, such as decorative arts, plastic arts, performing arts, or literature. Unlike scientific fields, art is one of the few subjects that are academically organized according to technique. An artistic medium is the substance or material the artistic work is made from, and may also refer to the technique used. For example, paint is a medium used in painting, and paper is a medium used in drawing.

An *art form* is the specific *shape*, or quality an artistic expression takes. The media used often influence the form. For example, the form of a sculpture must exist in space in three dimensions, and respond to gravity. The constraints and limitations of a particular medium are thus called its *formal qualities*. To give another example, the formal qualities of painting are the canvas texture, color, and brush texture. The formal qualities of video games are non-linearity, interactivity and virtual presence. The *form* of a particular work of art is determined by the formal qualities of the media, and is not related to the intentions of the artist or the reactions of the audience in any way whatsoever as these properties are related to content rather than form.

A *genre* is a set of conventions and styles within a particular medium. For instance, well recognized genres in film are western, horror and romantic comedy. Genres in music include death metal and trip hop. Genres in painting include still life and pastoral landscape. A particular work of art may bend or combine genres but each genre has a recognizable group of conventions, clichés and tropes. (One note: the word *genre* has a second older meaning within painting; *genre painting* was a phrase used in the 17th to 19th

centuriestoreferspecificallytopaintingsofscenesofeverydaylifeand is still used in this way.)

The Great Wave off Kanagawa by Hokusai (Japanese, 1760–1849), colored woodcut print

The *style* of an artwork, artist, or movement is the distinctive method and form followed by the respective art. Any loose brushy, dripped or poured abstract painting is called *expressionistic*. Often a style is linked with a particular historical period, set of ideas, and particular artistic movement. So Jackson Pollock is called an Abstract Expressionist.

A particular style may have specific cultural meanings. For example, Roy Lichtenstein—a painter associated with the American Pop art movement of the 1960s— was not a pointillist, despite his use of dots. Lichtenstein used evenly spaced Ben-Day dots (the type used to reproduce color in comic strips) as a style to question the "high" art of painting with the "low" art of comics, thus commenting on class distinctions in culture. Pointillism, a technique in late Impressionism (1880s) developed especially by the artist Georges Seurat, employs dots to create variation in color and depth in an attempt to approximate the way people really see color. Both artists use dots, but the particular style and technique relate to the artistic movement adopted by each artist.

These are all ways of beginning to define a work of art, to narrow it down.

Imagine you are an art critic whose mission is to compare the meanings you find in a wide range of individual artworks. How would you proceed with your task? One way to begin is to examine the materials each artist selected in making an object, image video, or event. The decision to cast a sculpture in bronze, for instance, inevitably effects its meaning; the work becomes something different from how it might be if it had been cast in gold or plastic or chocolate, even if everything else about the artwork remains the same. Next, you might examine how the materials in each artwork have become an arrangement of shapes, colors, textures, and lines. These, in turn, are organized into various patterns and compositional structures. In your interpretation, you would comment on how salient features of the form contribute to the overall meaning of the finished artwork. [But in the end] the meaning of most artworks ... is not exhausted by a discussion of materials, techniques, and form. Most interpretations also include a discussion of the ideas and feelings the artwork engenders.

SKILL AND CRAFT

Art can connote a sense of trained ability or mastery of a medium. Art can also simply refer to the developed and efficient use of a language to convey meaning with immediacy and or depth. Art is an act of expressing feelings, thoughts, and observations. There is an understanding that is reached with the material as a result of handling it, which facilitates one's thought processes. A common view is that the epithet "art", particular in its elevated sense, requires a certain level of creative expertise by the artist, whether this be a demonstration of technical ability, an originality in stylistic approach, or a combination of these two. Traditionally skill of execution was viewed as a quality inseparable from art and thus necessary for its success; for Leonardo da Vinci, art, neither

morenorlessthanhisotherendeavors,was a manifestationofskill.Rembrandt'swork,nowpraisedfor its ephemeral virtues, was most admired by his contemporaries for its virtuosity. At the turn of the 20th century, the adroit performances of John Singer Sargent were alternately admired and viewed with skepticism for their manual fluency, yet at nearly the same time the artist who wouldbecome the era's most recognized and peripatetic iconoclast, Pablo Picasso, was completing a traditional academic training at which he excelled.

A common contemporary criticism of some modern art occurs along the lines of objecting to the apparentlackofskillorabilityrequiredintheproductionoftheartistic object.Inconceptualart,Marcel Duchamp's "Fountain" is among the first examples of pieces wherein the artist used found objects ("ready-made") and exercised no traditionally recognised set of skills. Tracey Emin's *My Bed*, or Damien Hirst's *The Physical Impossibility of Death in the Mind of Someone Living* follow this example and also manipulate the mass media. Emin slept (and engaged in other activities) in her bed before placing the result in a gallery as work of art. Hirst came up with the conceptual design for the artwork but has left most of the eventual creation of many works to employed artisans. Hirst's celebrity is founded entirely on his ability to produce shocking concepts. The actual production in many conceptual and contemporary works of art is a matter of assembly of found objects. However, thereare many modernist and contemporary artists who continue to excel in the skills of drawing and paintingand in creating *hands-on* works of art.

PURPOSE OF ART

A Navajo rug made circa 1880

Mozarabic Beatus miniature. Spain, late 10th century

Art has had a great number of different functions throughout its history, making its purpose difficult to abstract or quantify to any single concept. This does not imply that the purpose of Art is "vague", but that it has had many unique, different reasons for being created. Some of these functions of Art are provided in the following outline. The different purposes of art may be grouped according to those that are non-motivated, and those that are motivated (Lévi-Strauss).

NON-MOTIVATED FUNCTIONS OF ART

The non-motivated purposes of art are those that are integral to being human, transcend the individual, or do not fulfill a specific external purpose. In this sense, Art, as creativity, is something humans must do by their very nature (i.e., no other species creates art), and is therefore beyond utility.

1. *Basic human instinct for harmony, balance, rhythm.* Art at this level is not an action or an object, but an internal appreciation of balance and harmony (beauty), and therefore an aspect of being human beyond utility.

    "Imitation, then, is one instinct of our nature. Next, there is the instinct for 'harmony' and rhythm, meters being manifestly sections of rhythm. Persons, therefore, starting with this natural gift developed by degrees their special aptitudes, till their rude improvisations gave birth to Poetry." -Aristotle

2. *Experience of the mysterious.* Art provides a way to experience one's self in relation to the universe. This experience may often come unmotivated, as one appreciates art, music or poetry.

    "The most beautiful thing we can experience is the mysterious. It is the source of all true art and science." -Albert Einstein

3. *Expression of the imagination.* Art provides a means to express the imagination in non-grammatic ways that are not tied to the formality of spoken or written language. Unlike words, which come in sequences and each of which have a definite meaning, art provides a range of forms, symbols and ideas with meanings that are malleable.

    "Jupiter's eagle [as an example of art] is not, like logical (aesthetic) attributes of an object, the concept of the sublimity and majesty of creation, but rather something else—something

that gives the imagination an incentive to spread its flight over a whole host of kindred representations that provoke more thought than admits of expression in a concept determined by words. They furnish an aesthetic idea, which serves the above rational idea as a substitute for logical presentation, but with the proper function, however, of animating the mind by opening out for it a prospect into a field of kindred representations stretching beyond its ken." -Immanuel Kant

4. *Ritualistic and symbolic functions.* In many cultures, art is used in rituals, performances and dances as a decoration or symbol. While these often have no specific utilitarian (motivated) purpose, anthropologists know that they often serve a purpose at the level of meaning within a particular culture. This meaning is not furnished by any one individual, but is often the result of many generations of change, and of a cosmological relationship within the culture.

"Most scholars who deal with rock paintings or objects recovered from prehistoric contexts that cannot be explained in utilitarian terms and are thus categorized as decorative, ritual or symbolic, are aware of the trap posed by the term 'art'." - Silva Tomaskova

MOTIVATED FUNCTIONS OF ART

Motivated purposes of art refer to intentional, conscious actions on the part of the artists or creator. These may be to bring about political change, to comment on an aspect of society, to convey a specific emotion or mood, to address personal psychology, to illustrate another discipline, to (with commercial arts) sell a product, or simply as a form of communication.

1. *Communication.* Art, at its simplest, is a form of communication. As most forms of communication have an intent or goal directed toward another individual, this is a motivated purpose. Illustrative arts, such as scientific illustration, are a form of art as communication. Maps are another example. However, the content need not be scientific. Emotions, moods and feelings are also communicated through art.

   "[Art is a set of] artefacts or images with symbolic meanings as a means of communication." - Steve Mithen

2. *Art as entertainment.* Art may seek to bring about a particular emotion or mood, for the purpose of relaxing or entertaining the viewer. This is often the function of the art industries of Motion Pictures and Video Games.

3. *The Avante-Garde. Art for political change.* One of the defining functions of early twentieth-century art has been to use visual images to bring about political change. Art movements that had this goal—Dadaism, Surrealism, Russian constructivism, and Abstract Expressionism, among others—are collectively referred to as the *avante-garde* arts.

   "By contrast, the realistic attitude, inspired by positivism, from Saint Thomas Aquinas to Anatole France, clearly seems to me to be hostile to any intellectual or moral advancement. I loathe it, for it is made up of mediocrity, hate, and dull conceit. It is this attitude which today gives birth to these ridiculous books, these insulting plays. It constantly feeds on and derives strength from the newspapers and stultifies both science and art by assiduously flattering the lowest of tastes; clarity bordering on stupidity, a dog's life." -André Breton (Surrealism)

4. *Art as a "free zone"*, removed from the action of the social censure. Unlike the avant-garde movements, which wanted to erase cultural differences in order to produce new universal values, contemporary art has enhanced its tolerance towards cultural differences as well as its critical

and liberating functions (social inquiry, activism, subversion, deconstruction ...), becoming a more open place for research and experimentation.

5. *Art for social inquiry, subversion and/or anarchy.* While similar to art for political change, subversive or deconstructivist art may seek to question aspects of society without any specific political goal. In this case, the function of art may be simply to criticize some aspect of society.

6. Spray-paint graffiti on a wall in Rome Graffiti art and other types of street art are graphics and images that are spray- painted or stencilled on publicly viewable walls, buildings, buses, trains, and bridges, usually without permission. Certain art forms, such as graffiti, may also be illegal when they break laws (in this case vandalism).

7. *Art for social causes.* Art can be used to raise awareness for a large variety of causes. A number of art activities were aimed at raising awareness of autism, cancer, human trafficking, and a variety of other topics, such as ocean conservation, human rights in Darfur, murdered and missing Aboriginal women, elder abuse, and pollution. Trashion, using trash to make fashion, practiced by artists such as Marina DeBris is one example of using art to raise awareness about pollution.

8. *Art for psychological and healing purposes.* Art is also used by art therapists, psychotherapists and clinical psychologists as art therapy. The Diagnostic Drawing Series, for example, is used to determine the personality and emotional functioning of a patient. The end product is not the principal goal in this case, but rather a process of healing, through creative acts, is sought. The resultant piece of artwork may also offer insight into the troubles experienced by the subject and may suggest suitable approaches to be used in more conventional forms of psychiatric therapy.

9. *Art for propaganda, or commercialism.* Art is often utilized as a form of propaganda, and thus can be used to subtly influence popular conceptions or mood. In a similar way, art that tries to sell a product also influences mood and emotion. In both cases, the purpose of art here is to subtly manipulate the viewer into a particular emotional or psychological response toward a particular idea or object.

10. *Art as a fitness indicator.* It has been argued that the ability of the human brain by far exceeds what was needed for survival in the ancestral environment. One evolutionary psychology explanation for this is that the human brain and associated traits (such as artistic ability and creativity) are the human equivalent of the peacock's tail. The purpose of the male peacock's extravagant tail has been argued to be to attract females (see also Fisherian runaway and handicap principle). According to this theory superior execution of art was evolutionary important because it attracted mates.

The functions of art described above are not mutually exclusive, as many of them may overlap. For example, art for the purpose of entertainment may also seek to sell a product, i.e. the movie or video game.

PUBLIC ACCESS

Versailles: Louis Le Vau opened up the interior court to create the expansive entrance cour d'honneur, later copied all over Europe.

Since ancient times, much of the finest art has represented a deliberate display of wealth or power, often achieved by using massive scale and expensive materials. Much art has been commissioned by rulers or religious establishments, with more modest versions only available to the most wealthy in society. Nevertheless, there have been many periods where art of very high quality was available, in terms of ownership, across large parts of society, above all in cheap media such as pottery, which persists in the ground, and perishable media such as textiles and wood. In many different cultures, the ceramics of indigenous peoples of the Americas are found in such a wide range of graves that they were clearly not restricted to a social elite, though other forms of art may have been. Reproductive methods such as moulds made mass-production easier, and were used to bring high-quality Ancient Roman pottery and Greek Tanagra figurines to a very wide market. Cylinder seals were both artistic and practical, and very widely used by what can be loosely called the middle class in the Ancient Near East. Once coins were widely used these also became an art form that reached the widest range of society. Another important innovation came in the 15th century in Europe, when printmaking began with small woodcuts, mostly religious, that were often very small and hand-colored, and affordable even by peasants who glued them to the walls of their homes. Printed books were initially very expensive, but fell steadily in price until by the 19th century even the poorest could afford some with printed illustrations. Popular prints of many different sorts have decorated homes and other places for centuries.

Public buildings and monuments, secular and religious, by their nature normally address the whole of society, and visitors as viewers, and display to the general public has long been an important factor in their design. Egyptian temples are typical in that the most largest and most lavish decoration was placed on the parts that could be seen by the general public, rather than the areas seen only by the priests. Many areas of royal palaces, castles and the houses of the social elite were often generally accessible, and large parts of the art collections of such people could often be seen, either by anybody, or by those able to pay a small price, or those wearing the correct clothes, regardless of who they were, as at the Palace of Versailles, where the appropriate extra accessories (silver shoe buckles and a sword) could be hired from shops outside.

Special arrangements were made to allow the public to see many royal or private collections placed in galleries, as with the Orleans Collection mostly housed in a wing of the Palais Royal in Paris, which could be visited for most of the 18th century. In Italy the art tourism of the Grand Tour became a major industry from the Renaissance onwards, and governments and cities made efforts to make their key works accessible. The British Royal Collection remains distinct, but large donations such as the Old Royal Library were made from it to the British Museum, established in 1753. The

Uffizi in Florence opened entirely as a gallery in 1765, though this function had been gradually taking the building over from the original civil servants' offices for a long time before. The building now occupied by the Prado in Madrid was built before the French Revolution for the public display of parts of the royal art collection, and similar royal galleries open to the public existed in Vienna, Munich and other capitals. The opening of the Musée du Louvre during the French Revolution (in 1793) as a public museum for much of the former French royal collection certainly marked an important stage in the development of public access to art, transferring ownership to a republican state, but was a continuation of trends already well established.

Most modern public museums and art education programs for children in schools can be traced back to this impulse to have art available to everyone. Museums in the United States tend to be gifts from the very rich to the masses (The Metropolitan Museum of Art in New York City, for example, was created by John Taylor Johnston, a railroad executive whose personal art collection seeded the museum.) But despite all this, at least one of the important functions of art in the 21st century remains as a marker of wealth and social status.

There have been attempts by artists to create art that cannot be bought by the wealthy as a status object. One of the prime original motivators of much of the art of the late 1960s and 1970s was to create art that could not be bought and sold. It is "necessary to present something more than mere objects" said the major post war German artist Joseph Beuys. This time period saw the rise of such things as performance art, video art, and conceptual art. The idea was that if the artwork was a performance that would leave nothing behind, or was simply an idea, it could not be bought and sold.

"Democratic precepts revolving around the idea that a work of art is a commodity impelled the aesthetic innovation which germinated in the mid-1960s and was reaped throughout the 1970s. Artists broadly identified under the heading of Conceptual art ... substituting performance and publishing activities for engagement with both the material and materialistic concerns of painted or sculptural form...[have] endeavored to undermine the art object qua object."

Performance by Joseph Beuys, 1978: Everyone an artist– On the way to the libertarian form of the social organism

In the decades since, these ideas have been somewhat lost as the art market has learned to sell limited edition DVDs of video works, invitations to exclusive performance art pieces, and the objects left over from conceptual pieces. Many of these performances create works that are only understood by the elite who have been educated as to why an idea or video or piece of apparent garbage may be considered art. The marker of status becomes understanding the work instead of necessarily owning it, and the artwork remains an upper-class activity. "With the widespread use of DVD recording technology in the early 2000s, artists, and the gallery system that derives its profits from the sale of artworks, gained an important means of controlling the sale of video and computer artworks in limited editions to collectors."

CONTROVERSIES

Théodore Géricault's *Raft of the Medusa*, *circa* 1820

Art has long been controversial, that is to say disliked by some viewers, for a wide variety of reasons, though most pre-modern controversies are dimly recorded, or completely lost to a modern view. Iconoclasm is the destruction of art that is disliked for a variety of reasons, including religious ones. Aniconism is a general dislike of either all figurative images, or often just religious ones, and has been a thread in many major religions. It has been a crucial factor in the history of Islamic art, where depictions of Muhammad remain especially controversial. Much art has been disliked purely because it depicted or otherwise stood for unpopular rulers, parties or other groups. Artistic conventions have often been conservative and taken very seriously by art critics, though often much less so by a wider public. The iconographic content of art could cause controversy, as with late medieval depictions of the new motif of the Swoon of the Virgin in scenes of the Crucifixion of Jesus. The *Last Judgment* by Michelangelo was controversial for various reasons, including breaches of decorum through nudity and the Apollo-like pose of Christ.

The content of much formal art through history was dictated by the patron or commissioner rather than just the artist, but with the advent of Romanticism, and economonic changes in the production of art, the artists' vision became the usual determinant of the content of his art, increasing the incidence of controversies, though often reducing their significance. Strong incentives for perceived originality and publicity also encouraged artists to court controversy. Théodore Géricault's *Raft of the Medusa* (c. 1820), was in part a political commentary on a recent event. Édouard Manet's *Le Déjeuner sur l'Herbe* (1863), was considered scandalous not because of the nude woman, but because she is seated next to men fully dressed in the clothing of the time, rather than in robes of the antique world. John Singer Sargent's *Madame Pierre Gautreau (Madam X)* (1884), caused a controversy over the reddish pink used to color the woman's ear lobe, considered far too suggestive and supposedly ruining the high- society model's reputation.

The gradual abandonment of naturalism and the depiction of realistic representations of the visual appearance of subjects in the 19th and 20th centuries led to a rolling controversy lasting for over a century. In the twentieth century, Pablo Picasso's *Guernica* (1937) used arresting cubist techniques and stark monochromatic oils, to depict the harrowing consequences of a contemporary bombing of a small, ancient Basque town. Leon Golub's *Interrogation III* (1981), depicts a female nude, hooded detainee strapped to a chair, her legs open to reveal her sexual organs, surrounded by two tormentors dressed in everyday clothing. Andres Serrano's *Piss Christ* (1989) is a photograph of a crucifix, sacred to the Christian religion and representing Christ's sacrifice and final suffering, submerged in a glass of the artist's own urine. The resulting uproar led to comments in the United States Senate about public funding of the arts.

THEORY

Before Modernism, aesthetics in Western art was greatly concerned with achieving the appropriate balance between different aspects of realism or truth to nature and the ideal; ideas as to what the appropriate balance is have shifted to and fro over the centuries. This concern is largely absent in other traditions of art. The aesthetic theorist John Ruskin, who championed what he saw as the naturalism of J. M. W. Turner, saw art's role as the communication by artifice of an essential truth that could only be found in nature.

The definition and evaluation of art has become especially problematic since the 20th century. Richard Wollheim distinguishes three approaches to assessing the aesthetic value of art: the Realist, whereby aesthetic quality is an absolute value independent of any human view; the Objectivist, whereby it is also an absolute value, but is dependent on general human experience; and the Relativist

position, whereby it is not an absolute value, but depends on, and varies with, the human experience of different humans.

ARRIVAL OF MODERNISM

The arrival of Modernism in the late nineteenth century lead to a radical break in the conception of the function of art, and then again in the late twentieth century with the advent of postmodernism. Clement Greenberg's 1960 article "Modernist Painting" defines modern art as "the use of characteristic methods of a discipline to criticize the discipline itself". Greenberg originally applied this idea to the Abstract Expressionist movement and used it as a way to understand and justify flat (non-illusionistic) abstract painting:

Composition II in Red, Blue, and Yellow (1930) by Piet Mondrian (Dutch, 1872–1944)

Realistic, naturalistic art had dissembled the medium, using art to conceal art; modernism used art to call attention to art. The limitations that constitute the medium of painting—the flat surface, the shape of the support, the properties of the pigment— were treated by the Old Masters as negative factors that could be acknowledged only implicitly or indirectly. Under Modernism these same limitations came to be regarded as positive factors, and were acknowledged openly.

After Greenberg, several important art theorists emerged, such as Michael Fried, T. J. Clark, Rosalind Krauss, Linda Nochlin and Griselda Pollock among others. Though only originally intended as a way of understanding a specific set of artists, Greenberg's definition of modern art is important to many of the ideas of art within the various art movements of the 20th century and early 21st century.

Pop artists like Andy Warhol became both noteworthy and influential through work including and possibly critiquing popular culture, as well as the art world. Artists of the 1980s, 1990s, and 2000s expanded this technique of self-criticism beyond *high art* to all cultural image-making, including fashion images, comics, billboards and pornography.

Duchamp once proposed that art is any activity of any kind- everything. However, the way that only certain activities are classified today as art is a social construction. There is evidence that there may be an element of truth to this. The Invention of Art: A Cultural History is an art history book which examines the construction of the modern system of the arts i.e. Fine Art. Shiner finds evidence that the older system of the arts before our modern system (fine art) held art to be any skilled human activity i.e. Ancient Greek society did not possess the term art but techne.

Techne can be understood neither as art or craft, the reason being that the distinctions of art and craft

are historical products that came later on in human history. Techne included painting, sculpting and music but also; cooking, medicine, horsemanship, geometry, carpentry, prophecy, and farming etc.

NEW CRITICISM AND THE "INTENTIONAL FALLACY"

Following Duchamp during the first half of the twentieth century, a significant shift to general aesthetic theory took place which attempted to apply aesthetic theory between various forms of art, including the literary arts and the visual arts, to each other. This resulted in the rise of the New Criticism school and debate concerning *the intentional fallacy*. At issue was the question of whether the aesthetic intentions of the artist in creating the work of art, whatever its specific form, should be associated with the criticism and evaluation of the final product of the work of art, or, if the work of art should be evaluated on its own merits independent of the intentions of the artist.

In 1946, William K. Wimsatt and Monroe Beardsley published a classic and controversial New Critical essay entitled "The Intentional Fallacy", in which they argued strongly against the relevance of an author's intention, or "intended meaning" in the analysis of a literary work. For Wimsatt and Beardsley, the words on the page were all that mattered; importation of meanings from outside the text was considered irrelevant, and potentially distracting.

In another essay, "The Affective Fallacy," which served as a kind of sister essay to "The Intentional Fallacy" Wimsatt and Beardsley also discounted the reader's personal/emotional reaction to a literary work as a valid means of analyzing a text. This fallacy would later be repudiated by theorists from the reader-response school of literary theory. Ironically, one of the leading theorists from this school, Stanley Fish, was himself trained by New Critics. Fish criticizes Wimsatt and Beardsley in his essay "Literature in the Reader" (1970).

As summarized by Gaut and Livingston in their essay "The Creation of Art": "Structuralist and post-structuralists theorists and critics were sharply critical of many aspects of New Criticism, beginning with the emphasis on aesthetic appreciation and the so-called autonomy of art, but they reiterated the attack on biographical criticisms's assumption that the artist's activities and experience were a privileged critical topic." These authors contend that: "Anti-intentionalists, such as formalists, hold that the intentions involved in the making of art are irrelevant or peripheral to correctly interpreting art. So details of the act of creating a work, though possibly of interest in themselves, have no bearing on the correct interpretation of the work."

Gaut and Livingston define the intentionalists as distinct from formalists stating that: "Intentionalists, unlike formalists, hold that reference to intentions is essential in fixing the correct interpretation of works." They quote Richard Wollheim as stating that, "The task of criticism is the reconstruction of the creative process, where the creative process must in turn be thought of as something not stopping short of, but terminating on, the work of art itself."

"LINGUISTIC TURN" AND ITS DEBATE

The end of the 20th century fostered an extensive debate known as the linguistic turn controversy, or the "innocent eye debate", and generally referred to as the structuralism-poststructuralism debate in the philosophy of art. This debate discussed the encounter of the work of art as being determined by the relative extent to which the conceptual encounter with the work of art dominates over the perceptual encounter with the work of art. Decisive for the linguistic turn debate in art history and the humanities were the works of yet another tradition, namely the structuralism of Ferdinand de Saussure and the ensuing movement of poststructuralism. In 1981, the artist Mark

Tansey created a work of art titled "The Innocent Eye" as a criticism of the prevailing climate of disagreement in the philosophy of art during the closing decades of the 20th century. Influential theorists include Judith Butler, Luce Irigaray, Julia Kristeva, Michel Foucault and Jacques Derrida. The power of language, more specifically of certain rhetorical tropes, in art history and historical discourse was explored by Hayden White. The fact that language is *not* a transparent medium of thought had been stressed by a very different form of philosophy of language which originated in the works of Johann Georg Hamann and Wilhelm von Humboldt. Ernst Gombrich and Nelson Goodman in his book *Languages of Art: An Approach to a Theory of Symbols* came to hold that the conceptual encounter with the work of art predominated exclusively over the perceptual and visual encounter with the work of art during the 1960s and 1970s. He was challenged on the basis of research done by the Nobel prize winning psychologist Roger Sperry who maintained that the human visual encounter was not limited to concepts represented in language alone (the linguistic turn) and that other forms of psychological representations of the work of art were equally defensible and demonstrable. Sperry's view eventually prevailed by the end of the 20th century with aesthetic philosophers such as Nick Zangwill strongly defending a return to moderate aesthetic formalism among other alternatives.

CLASSIFICATION DISPUTES

The original Fountain by Marcel Duchamp, 1917, photographed by Alfred Stieglitz
at the 291 after the 1917 Society of Independent Artists exhibit. Stieglitz used a backdrop of
The Warriors by Marsden Hartley to photograph the urinal. The exhibition entry tag can be clearly seen.

Disputes as to whether or not to classify something as a work of art are referred to as classificatory disputes about art.

Classificatory disputes in the 20th century have included cubist and impressionist paintings, Duchamp's *Fountain*, the movies, superlative imitations of banknotes, conceptual art, and video games.

Philosopher David Novitz has argued that disagreement about the definition of art are rarely the heart of the problem. Rather, "the passionate concerns and interests that humans vest in their social life" are "so much a part of all classificatory disputes about art" (Novitz, 1996). According to Novitz, classificatory disputes are more often disputes about societal values and where society is trying to go than they are about theory proper. For example, when the Daily Mail criticized Hirst's and Emin's work by arguing "For 1,000 years art has been one of our great civilising forces. Today, pickled sheep and soiled beds threaten to make barbarians of us all" they are not advancing a definition or theory about art, but questioning the value of Hirst's and Emin's work. In 1998, Arthur Danto, suggested a thought experiment showing that "the status of an artifact as work of art results from

the ideas a culture applies to it, rather than its inherent physical or perceptible qualities. Cultural interpretation (an art theory of some kind) is therefore constitutive of an object's arthood."

Anti-art is a label for art that intentionally challenges the established parameters and values of art; it is term associated with Dadaism and attributed to Marcel Duchamp just before World War I, when he was making art from found objects. One of these, *Fountain* (1917), an ordinary urinal, has achieved considerable prominence and influence on art. Anti-art is a feature of work by Situationist International, the lo-fi Mail art movement, and the Young British Artists, though it is a form still rejected by the Stuckists, who describe themselves as anti-anti-art.

VALUE JUDGMENT

Aboriginal hollow log tombs. National Gallery, Canberra, Australia

Somewhat in relation to the above, the word *art* is also used to apply judgments of value, as in such expressions as "that meal was a work of art" (the cook is an artist), or "the art of deception", (the highly attained level of skill of the deceiver is praised). It is this use of the word as a measure of high quality and high value that gives the term its flavor of subjectivity.

Making judgments of value requires a basis for criticism. At the simplest level, a way to determine whether the impact of the object on the senses meets the criteria to be considered *art* is whether it is perceived to be attractive or repulsive. Though perception is always colored by experience, and is necessarily subjective, it is commonly understood that what is not somehow aesthetically satisfying cannot be art. However, "good" art is not always or even regularly aesthetically appealing to a majority of viewers. In other words, an artist's prime motivation need not be the pursuit of the aesthetic. Also, art often depicts terrible images made for social, moral, or thought- provoking reasons. For example, Francisco Goya's painting depicting the Spanish shootings of 3rd of May 1808 is a graphic depiction of a firing squad executing several pleading civilians. Yet at the same time, the horrific imagery demonstrates Goya's keen artistic ability in composition and execution and produces fitting social and political outrage. Thus, the debate continues as to what mode of aesthetic satisfaction, if any, is required to define 'art'.

The assumption of new values or the rebellion against accepted notions of what is aesthetically superior need not occur concurrently with a complete abandonment of the pursuit of what is aesthetically appealing. Indeed, the reverse is often true, that the revision of what is popularly conceived of as being aesthetically appealing allows for a re-invigoration of aesthetic sensibility, and a new appreciation for the standards of art itself. Countless schools have proposed their own ways to define quality, yet they all seem to agree in at least one point: once their aesthetic choices are accepted, the value of the work of art is

determined by its capacity to transcend the limits of its chosen medium to strike some universal chord by the rarity of the skill of the artist or in its accurate reflection in what is termed the *zeitgeist.*

Art is often intended to appeal to and connect with human emotion. It can arouse aesthetic or moral feelings, and can be understood as a way of communicating these feelings. Artists express something so that their audience is aroused to some extent, but they do not have to do so consciously. Art may be considered an exploration of the human condition; that is, what it is to be human.

Chapter 5
Ecology ofCulture

Culture is, in the words of E.B. Tylor, "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society." Alternatively, in a contemporary variant, "Culture is defined as a social domain that emphasizes the practices, discourses, and material expressions, which, over time, express the continuities and discontinuitiesofsocialmeaningofalife held incommon."

Human symbolic expression developed as prehistoric humans reached behavioral modernity

Religion and expressive art are important aspects of human culture.

Celebrations, rituals, and patterns of consumption are important aspects of folk culture.

Social and political organization varies between different cultures.

Technologies, such as writing, permit a high degree of cultural complexity.

Cambridge English Dictionary states that culture is "the way of life, especially the general customs and beliefs, of a particular group of people at a particular time." Terror Management Theory posits that culture is a series of activities and worldviews that provide humans with the basis for perceiving themselves as "person[s] of worth within the world of meaning"—raising themselves above the merely physical aspects of existence, in order to deny the animal insignificance and death that Homo Sapiens became aware of when they acquired a larger brain.

As a defining aspect of what it means to be human, culture is a central concept in anthropology, encompassing the range of phenomena that are transmitted through social learning in human societies. The word is used in a general sense as the evolved ability to categorize and represent experiences with symbols and to act imaginatively and creatively. This ability arose with the evolution of behavioral modernity in humans around 50,000 years ago. This capacity is often thought to be unique to humans, although some other species have demonstrated similar, though much less complex abilities for social learning. It is also used to denote the complex networks of practices and accumulated knowledge and ideas that is transmitted through social interaction and exist in specific human groups, or cultures, using the plural form. Some aspects of human behavior, such as language, social practices such as kinship, gender and marriage, expressive forms such as art, music, dance, ritual, religion, and technologies such as cooking, shelter, clothing are said to be cultural universals, found in all human societies. The concept material culture covers the physical expressions of culture, such as technology, architecture and art, whereas the immaterial aspects of culture such as principles of social organization (including, practices of political organization and social institutions), mythology, philosophy, literature (both written and oral), and science make up the intangible cultural heritage of a society.

In the humanities, one sense of culture, as an attribute of the individual, has been the degree to which they have cultivated a particular level of sophistication, in the arts, sciences, education, or manners. The level of cultural sophistication has also sometimes been seen to distinguish civilizations from less complex societies. Such hierarchical perspectives on culture are also found in class-based distinctions between a high culture of the social elite and a low culture, popular culture or folk culture of the lower classes, distinguished by the stratified access to cultural capital. In common parlance, culture is often used to refer specifically to the symbolic markers used by ethnic groups to distinguish themselves visibly from each other such as body modification, clothing or jewelry Mass culture refers to the mass-produced and mass mediated forms of consumer culture that emerged

in the 20th century. Some schools of philosophy, such as Marxism and critical theory, have argued that culture is often used politically as a tool of the elites to manipulate the lower classes and create a false consciousness, such perspectives common in the discipline of cultural studies. In the wider social sciences, the theoretical perspective of cultural materialism holds that human symbolic culture arises from the material conditions of human life, as humans create the conditions for physical survival, and that the basis of culture is found in evolved biological dispositions.

When used as a count noun, "a culture" is the set of customs, traditions, and values of a society or community, such as an ethnic group or nation. In this sense, multiculturalism is a concept that values the peaceful coexistence and mutual respect between different cultures inhabiting the same territory. Sometimes "culture" is also used to describe specific practices within a subgroup of a society, a subculture (e.g. "bro culture"), or a counter culture. Within cultural anthropology, the ideology and analytical stance of cultural relativism holds that cultures cannot easily be objectively ranked or evaluated because any evaluation is necessarily situated within the value system of a given culture.

ETYMOLOGY

The modern term "culture" is based on a term used by the Ancient Roman orator Cicero in his *Tusculanae Disputationes*, where he wrote of a cultivation of the soul or *"cultura animi"*, using an agricultural metaphor for the development of a philosophical soul, understood teleologically as the highest possible ideal for human development. Samuel Pufendorf took over this metaphor in a modern context, meaning something similar, but no longer assuming that philosophy was man's natural perfection. His use, and that of many writers after him "*refers to all the ways in which human beings overcome their original barbarism, and through artifice, become fully human*".

Philosopher Edward S. Casey (1996) describes: "The very word *culture* meant "place tilled" in Middle English, and the same word goes back to Latin *colere*, "to inhabit, care for, till, worship" and *cultus*, "A cult, especially a religious one." To be cultural, to have a culture, is to inhabit a place sufficiently intensive to cultivate it — to be responsible for it, to respond to it, to attend to it caringly."

Culture described by Velkley:

...originally meant the cultivation of the soul or mind, acquires most of its later modern meaning in the writings of the 18th-century German thinkers, who were on various levels developing Rousseau's criticism of "modern liberalism and Enlightenment". Thus a contrast between "culture" and "civilization" is usually implied in these authors, even when not expressed as such.

CHANGE

A 19th-century engraving showing Australian natives opposing the arrival of Captain James Cook in 1770

An Assyrian child wearing traditional clothing.

Cultural invention has come to mean any innovation that is new and found to be useful to a group of people and expressed in their behavior but which does not exist as a physical object. Humanity is in a global "accelerating culture change period", driven by the expansion of international commerce, the mass media, and above all, the human population explosion, among other factors. Culture repositioning means the reconstruction of the cultural concept of a society.

Full-length profile portrait of Turkman woman, standing on a carpet at the entrance to a yurt, dressed in traditional clothing and jewelry

Cultures are internally affected by both forces encouraging change and forces resisting change. These forces are related to both social structures and natural events, and are involved in the perpetuation of cultural ideas and practices within current structures, which themselves are subject to change. (See structuration.)

Social conflict and the development of technologies can produce changes within a society by altering social dynamics and promoting new cultural models, and spurring or enabling generative action. These social shifts may accompany ideological shifts and other types of cultural change. For example, the U.S. feminist movement involved new practices that produced a shift in gender relations, altering both gender and economic structures. Environmental conditions may also enter as factors. For example, after tropical forests returned at the end of the last ice age, plants suitable for domestication were available, leading to the invention of agriculture, which in turn brought about many cultural innovations and shifts in social dynamics.

Cultures are externally affected via contact between societies, which may also produce—or inhibit—social shifts and changes in cultural practices. War or competition over resources may impact technological development or social dynamics. Additionally, cultural ideas may transfer from one society to another, through diffusion or acculturation. In diffusion, the form of something (though not necessarily its meaning) moves from one culture to another. For example, hamburgers, fast food in the United States, seemed exotic when introduced into China. "Stimulus diffusion" (the sharing of ideas) refers to an element of one culture leading to an invention or propagation in another. "Direct Borrowing" on the other hand tends to refer to technological or tangible diffusion from one culture to another. Diffusion of innovations theory presents a research-based model of why and when individuals and cultures adopt new ideas, practices, and products.

Acculturation has different meanings, but in this context it refers to replacement of the traits of one culture with those of another, such as what happened to certain Native American tribes and to many indigenous peoples across the globe during the process of colonization. Related processes on an individual level include assimilation (adoption of a different culture by an individual) and transculturation. The transnational flow of culture has played a major role in merging different culture and sharing thoughts, ideas and belief.

EARLY MODERN DISCOURSES

GERMAN ROMANTICISM

Immanuel Kant (1724–1804) has formulated an individualist definition of "enlightenment" similar to the concept of *bildung*: "Enlightenment is man's emergence from his self-incurred immaturity." He argued that this immaturity comes not from a lack of understanding, but from a lack of courage to think independently. Against this intellectual cowardice, Kant urged: *Sapere aude*, "Dare to be wise!" In reaction to Kant, German scholars such as Johann Gottfried Herder (1744–1803) argued that human creativity, which necessarily takes unpredictable and highly diverse forms, is as important as human rationality. Moreover, Herder proposed a collective form of *bildung*: "For Herder, Bildung was the totality of experiences that provide a coherent identity, and sense of common destiny, to a people."

Johann Herder called attention to national cultures.

Adolf Bastian developed a universal model of culture.

In 1795, the Prussian linguist and philosopher Wilhelm von Humboldt (1767–1835) called for an anthropology that would synthesize Kant's and Herder's interests. During the Romantic era, scholars in Germany, especially those concerned with nationalist movements—such as the nationalist struggle to create a "Germany" out of diverse principalities, and the nationalist struggles by ethnic minorities against the Austro- Hungarian Empire—developed a more inclusive notion of culture as "worldview" (*Weltanschauung*). According to this school of thought, each ethnic group has a distinct worldview that is incommensurable with the worldviews of other groups. Although more inclusive than earlier views, this approach to culture still allowed for distinctions between "civilized" and "primitive" or "tribal" cultures.

In 1860, Adolf Bastian (1826–1905) argued for "the psychic unity of mankind". He proposed that a scientific comparison of all human societies would reveal that distinct worldviews consisted of the same basic elements. According to Bastian, all human societies share a set of "elementary ideas" (*Elementargedanken*); different cultures, or different "folk ideas" (*Völkergedanken*), are local modifications of the elementary ideas. This view paved the way for the modern understanding of culture. Franz Boas (1858– 1942) was trained in this tradition, and he brought it with him when he left Germany for the United States.

ENGLISH ROMANTICISM

British poet and critic Matthew Arnold viewed "culture" as the cultivation of the humanist ideal.

In the 19th century, humanists such as English poet and essayist Matthew Arnold (1822–1888) used the word "culture" to refer to an ideal of individual human refinement, of "the best that has been thought and said in the world." This concept of culture is comparable to the German concept of *bildung*: "...culture being a pursuit of our total perfection by means of getting to know, on all the matters which most concern us, the best which has been thought and said in the world."

In practice, *culture* referred to an élite ideal and was associated with such activities as art, classical music, and haute cuisine. As these forms were associated with urban life, "culture" was identified with "civilization" (from lat. *civitas*, city). Another facet of the Romantic movement was an interest in folklore, which led to identifying a "culture" among non-elites. This distinction is often characterized as that between high culture, namely that of the ruling social group, and low culture. In other words, the idea of "culture" that developed in Europe during the 18th and early 19th centuries reflected inequalities within European societies.

British anthropologist Edward Tylor was one of the first English-speaking scholars to use the term culture in an inclusive and universal sense.

Matthew Arnold contrasted "culture" with anarchy; other Europeans, following philosophers Thomas Hobbes and Jean-Jacques Rousseau, contrasted "culture" with "the state of nature". According to Hobbes and Rousseau, the Native Americans who

were being conquered by Europeans from the 16th centuries on were living in a state of nature; this opposition was expressed through the contrast between "civilized" and "uncivilized." According to this way of thinking, one could classify some countries and nations as more civilized than others and some people as more cultured than others. This contrast led to Herbert Spencer's theory of Social Darwinism and Lewis Henry Morgan's theory of cultural evolution. Just as some critics have argued that the distinction between high and low cultures is really an expression of the conflict between European elites and non-elites, some critics have argued that the distinction between civilized and uncivilized people is really an expression of the conflict between European colonial powers and their colonial subjects.

Other 19th-century critics, following Rousseau have accepted this differentiation between higher and lower culture, but have seen the refinement and sophistication of high culture as corrupting and unnatural developments that obscure and distort people's essential nature. These critics considered folk music (as produced by "the folk", i.e., rural, illiterate, peasants) to honestly express a natural way of life, while classical music seemed superficial and decadent. Equally, this view often portrayed indigenous peoples as "noble savages" living authentic and unblemished lives, uncomplicated and uncorrupted by the highly stratified capitalist systems of the West.

In 1870 the anthropologist Edward Tylor (1832–1917) applied these ideas of higher versus lower culture to propose a theory of the evolution of religion. According to this theory, religion evolves from more polytheistic to more monotheistic forms. In the process, he redefined culture as a diverse set of activities characteristic of all human societies. This view paved the way for the modern understanding of culture.

ANTHROPOLOGY

Petroglyphs in modern-day Gobustan, Azerbaijan, dating back to 10,000 BCE and indicating a thriving culture

Although anthropologists worldwide refer to Tylor's definition of culture, in the 20th century "culture" emerged as the central and unifying concept of American anthropology, where it most commonly refers to the universal human capacity to classify and encode human experiences symbolically, and to communicate symbolically encoded experiences socially. American anthropology is organized into four fields, each of which plays an important role in research on culture: biological anthropology, linguistic anthropology, cultural anthropology, and archaeology.

SOCIOLOGY

The sociology of culture concerns culture—usually understood as the ensemble of symbolic codes used by a society—as manifested in society. For Georg Simmel (1858– 1918), culture referred to "the cultivation of individuals through the agency of external forms which have been objectified in the course of history". Culture in the sociological field can be defined as the ways of thinking, the ways of acting, and the material objects that together shape a people's way of life. Culture can be any of two types, non- material culture or material culture. Non-material culture refers to the non physical ideas that individuals have about their culture, including values, belief system, rules, norms, morals, language, organizations, and institutions. While Material culture is the physical evidence of a culture in the objects and architecture they make, or have made. The term tends to be relevant only in archeological and anthropological studies, but it specifically means all material evidence which can be attributed to culture past or present.

Cultural sociology first emerged in Weimar Germany (1918–1933), where sociologists such as Alfred Weber used the term *Kultursoziologie* (cultural sociology). Cultural sociology was then "reinvented" in the English-speaking world as a product of the "cultural turn" of the 1960s, which ushered in structuralist and postmodern approaches to social science. This type of cultural sociology may loosely be regarded as an approach incorporating cultural analysis and critical theory. Cultural sociologists tend to reject scientific methods, instead hermeneutically focusing on words, artifacts and symbols. "Culture" has since become an important concept across many branches of sociology, including resolutely scientific fields like social stratification and social network analysis. As a result, there has been a recent influx of quantitative sociologists to the field. Thus there is now a growing group of sociologists of culture who are, confusingly, not cultural sociologists. These scholars reject the abstracted postmodern aspects of cultural sociology, and instead look for a theoretical backing in the more scientific vein of social psychology and cognitive science. "Cultural sociology" is one of the largest sections of the American Sociological Association. The British establishment of cultural studies means the latter is often taught as a loosely distinct discipline in the UK.

EARLY RESEARCHERS AND DEVELOPMENT OF CULTURAL SOCIOLOGY

The sociology of culture grew from the intersection between sociology (as shaped by early theorists like Marx, Durkheim, and Weber) with the growing discipline of anthropology, where in researchers pioneered ethnographic strategies for describing and analyzing a variety of cultures around the world. Part of the legacy of the early development of the field lingers in the methods (much of cultural sociological research is qualitative), in the theories (a variety of critical approaches to sociology are central to current research communities), and in the substantive focus of the field. For instance, relationships between popular culture, political control, and social class were early and lasting concerns in the field.

CULTURAL STUDIES

In the United Kingdom, sociologists and other scholars influenced by Marxism, such as Stuart Hall (1932–2014) and Raymond Williams (1921–1988), developed cultural

studies. Following nineteenth-century Romantics, they identified "culture" with consumption goods and leisure activities (such as art, music, film, food, sports, and clothing). Nevertheless, they saw patterns of consumption and leisure as determined by relations of production, which led them to focus on class relations and the organization of production.

In the United States, "Cultural Studies" focuses largely on the study of popular culture, that is, on the social meanings of mass-produced consumer and leisure goods. Richard Hoggart coined the term in 1964 when he founded the Birmingham Centre for Contemporary Cultural Studies or CCCS. It has since become strongly associated with Stuart Hall, who succeeded Hoggart as Director. Cultural studies in this sense, then, can be viewed as a limited concentration scoped on the intricacies of consumerism, which belongs to a wider culture sometimes referred to as "Western Civilization" or as "Globalism."

From the 1970s onward, Stuart Hall's pioneering work, along with that of his colleagues Paul Willis, Dick Hebdige, Tony Jefferson, and Angela McRobbie, created an international intellectual movement. As the field developed it began to combine political economy, communication, sociology, social theory, literary theory, media theory, film/video studies, cultural anthropology, philosophy, museum studies and art history to study cultural phenomena or cultural texts. In this field researchers often concentrate on how particular phenomena relate to matters of ideology, nationality, ethnicity, social class, and/or gender. Cultural studies has a concern with the meaning and practices of everyday life. These practices comprise the ways people do particular things (such as watching television, or eating out) in a given culture. This field studies the meanings and uses people attribute to various objects and practices. Specifically, culture involves those meanings and practices held independently of reason. Watching television in order to view a public perspective on a historical event should not be thought of as culture, unless referring to the medium of television itself, which may have been selected culturally; however, schoolchildren watching television after school with their friends in order to "fit in" certainly qualifies, since there is no grounded reason for one's participation in this practice.

In the context of cultural studies, the idea of a *text* includes not only written language, but also films, photographs, fashion or hairstyles: the texts of cultural studies comprise all the meaningful artifacts of culture. Similarly, the discipline widens the concept of "culture". "Culture" for a cultural-studies researcher not only includes traditional high culture (the culture of ruling social groups) and popular culture, but also everyday meanings and practices. The last two, in fact, have become the main focus of cultural studies. A further and recent approach is comparative cultural studies, based on the disciplines of comparative literature and cultural studies.

Scholars in the United Kingdom and the United States developed somewhat different versions of cultural studies after the late 1970s. The British version of cultural studies had originated in the 1950s and 1960s, mainly under the influence first of Richard Hoggart, E. P. Thompson, and Raymond Williams, and later that of Stuart Hall and others at the Centre for Contemporary Cultural Studies at the University of Birmingham. This included overtly political, left-wing views, and criticisms of popular culture as "capitalist" mass culture; it absorbed some of the ideas of the Frankfurt

School critique of the "culture industry" (i.e. mass culture). This emerges in the writings of early British cultural-studies scholars and their influences: see the work of (for example) Raymond Williams, Stuart Hall, Paul Willis, and Paul Gilroy.

In the United States, Lindlof and Taylor write, "Cultural studies [were] grounded in a pragmatic, liberal-pluralist tradition". The American version of cultural studies initially concerned itself more with understanding the subjective and appropriative side of audience reactions to, and uses of, mass culture; for example, American cultural- studies advocates wrote about the liberatory aspects of fandom. The distinction between American and British strands, however, has faded. Some researchers, especially in early British cultural studies, apply a Marxist model to the field. This strain of thinking has some influence from the Frankfurt School, but especially from the structuralist Marxism of Louis Althusser and others.

The main focus of an orthodox Marxist approach concentrates on the *production* of meaning. This model assumes a mass production of culture and identifies power as residing with those producing cultural artifacts. In a Marxist view, those who control the means of production (the economic *base*) essentially control a culture. Other approaches to cultural studies, such as feminist cultural studies and later American developments of the field, distance themselves from this view.

They criticize the Marxist assumption of a single, dominant meaning, shared by all, for any cultural product. The non-Marxist approaches suggest that different ways of consuming cultural artifacts affect the meaning of the product. This view comes through in the book *Doing Cultural Studies: The Story of the Sony Walkman* (by Paul du Gay *et al.*), which seeks to challenge the notion that those who produce commodities control the meanings that people attribute to them.

Feminist cultural analyst, theorist and art historian Griselda Pollock contributed to cultural studies from viewpoints of art history and psychoanalysis. The writer Julia Kristeva is among influential voices at the turn of the century, contributing to cultural studies from the field of art and psychoanalytical French feminism. Petrakis and Kostis (2013) divide cultural background variables into two main groups:

1. The first group covers the variables that represent the "efficiency orientation" of the societies: performance orientation, future orientation, assertiveness, power distance and uncertainty avoidance.
2. The second covers the variables that represent the "social orientation" of societies, i.e., the attitudes and lifestyles of their members. These variables include gender egalitarianism, institutional collectivism, in-group collectivism and human orientation.

CULTURAL DYNAMICS

Raimon Panikkar pointed out 29 ways in which cultural change can be brought about. Some of these are: growth, development, evolution, involution, renovation, reconception, reform, innovation, revivalism, revolution, mutation, progress, diffusion, osmosis, borrowing, eclecticism, syncretism, modernization, indigenization, and transformation. Hence Modernization could be similar or related to the enlightenment

but a 'looser' term set to ideal and values that flourish. a belief in objectivity progress. Also seen as a belief in a secular society (free from religious influences) example objective and rational, science vs religion and finally been modern means not being religious.


The Beatles exemplified changing cultural dynamics, not only in music, but fashion and lifestyle. Over a half century after their emergence they continue to have a worldwide cultural impact.

Chapter 6
# Literacy Movement for Poverty Alleviation and Reduction

Literacy is traditionally understood as the ability to read, write, and use arithmetic. The modern term's meaning has been expanded to include the ability t use language, numbers, images, computers and other basic means understand, communicate, gain useful knowledge and use the dominant symbol systems of a culture. The concept of literacy is expanding in OECD countries to include skills to access knowledge through technology and ability to assess complex contexts.
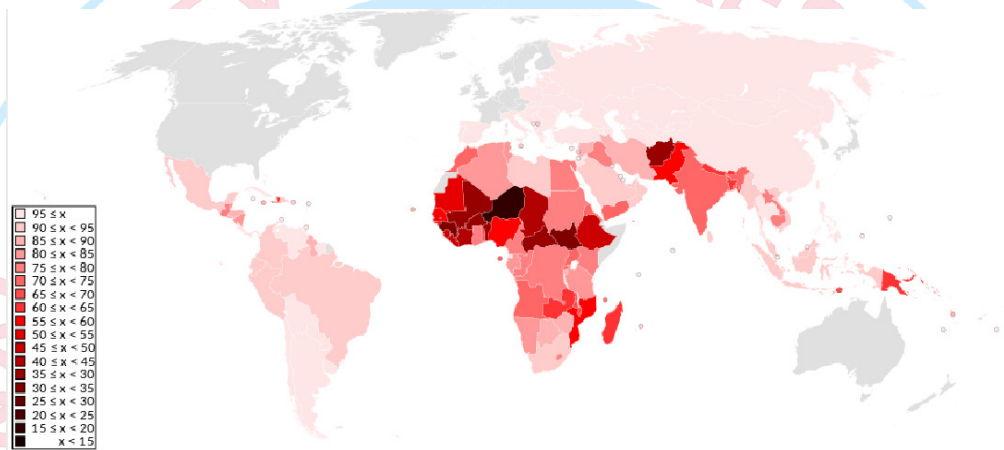
World map indicating literacy rate by country in 2015 (2015 CIA World Factbook) Grey = no data
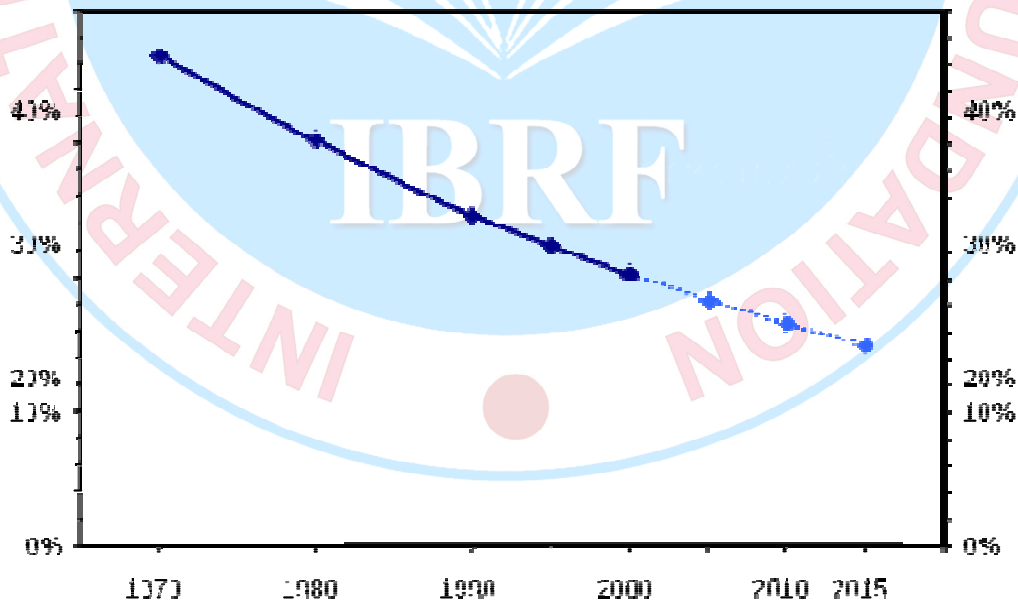
World illiteracy halved between 1970 and 2005.
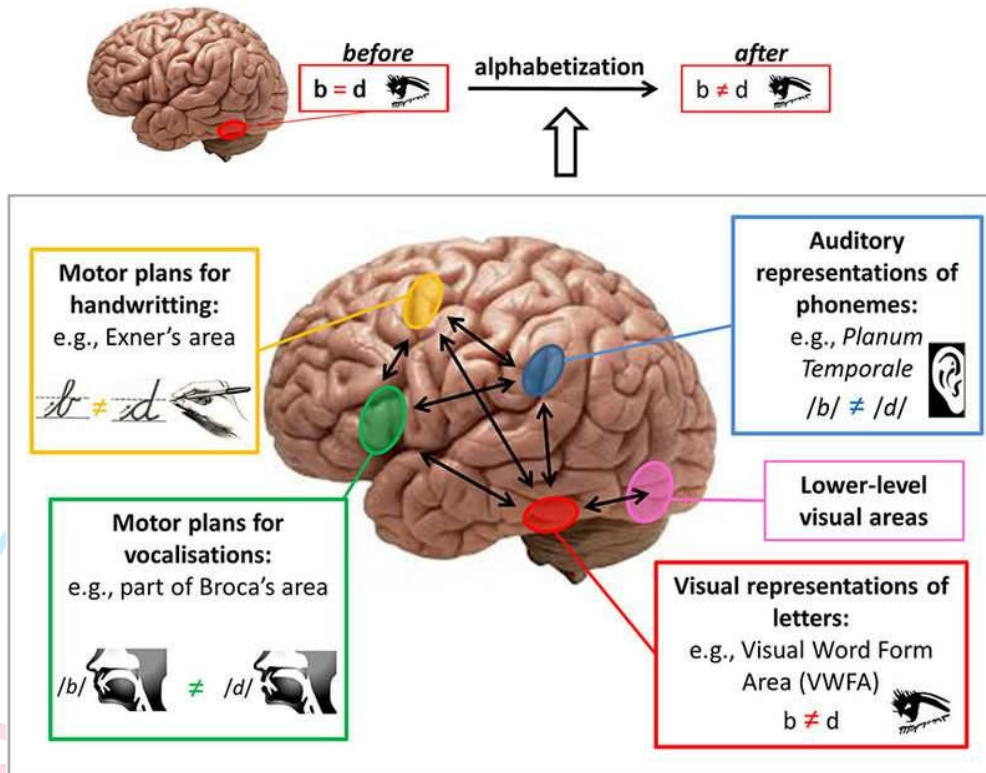
Brain areas involved in literacy acquisition

The key to literacy is reading development, a progression of skills that begins with the ability to understand spoken words and decode written words, and culminates in the deep understanding of text. Reading development involves a range of complex language underpinnings including awareness of speech sounds (phonology), spelling patterns (orthography), word meaning (semantics), grammar (syntax) and patterns of word formation (morphology), all of which provide a necessary platform for reading fluency and comprehension. Once these skills are acquired, the reader can attain full language literacy, which includes the abilities to apply to printed material critical analysis, inference and synthesis; to write with accuracy and coherence; and to use information and insights from text as the basis for informed decisions and creative thought. The inability to do so is called illiteracy or analphabetism. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

HISTORY

PREHISTORIC LITERACY ORIGINS

OFLITERACY

Literacy is thought to have first emerged with the development of numeracy and computational devices as early as 8,000 BCE. Script developed independently at least four times in human history in Mesopotamia, Egypt, lowland Mesoamerica, and China.
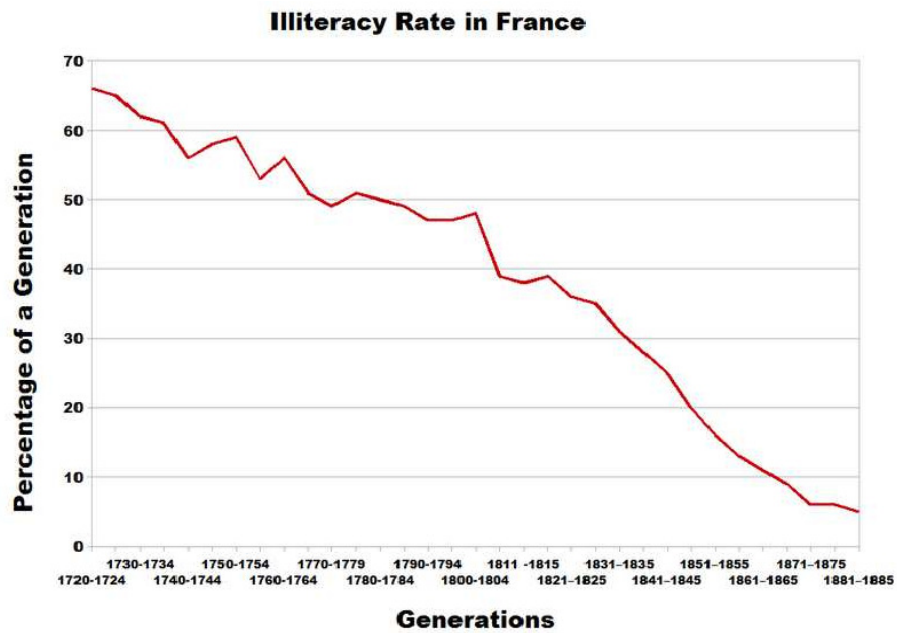
Illiteracy rate in France in the 18th and 19th centuries

Bill of sale of a male slave and a building in Shuruppak, Sumerian tablet, circa 2600 BC

The earliest forms of written communication originated in Sumer, located in southern Mesopotamia about 3500-3000 BCE. During this era, literacy was "a largely functional matter, propelled by the need to manage the new quantities of information and the new
type of governance created by trade and large scale production". Writing systems in Mesopotamia first emerged from a recording system in which people used impressed

tokenmarkingstomanagetradeandagriculturalproduction.Thetokensystemserved as a precursor to early cuneiform writing once people began recording information on clay tablets. Proto-cuneiform textsexhibitnotonlynumericalsigns,butalsoideograms depicting objects being counted.

Egyptian hieroglyphs emerged from 3300-3100 BCE and depicted royal iconography that emphasized power amongst other elites. The Egyptian hieroglyphic writing system was the first notation system to have phonetic values.

Writing in lowland Mesoamerica was first put into practice by the Olmec and Zapotec civilizations in 900-400 BCE. These civilizations used glyphic writing and bar-and-dot numerical notation systems for purposes related to royal iconography and calendar systems.

The earliest written notations in China date back to the Shang Dynasty in 1200 BCE. These systematic notations were found inscribed on bones and recorded sacrifices made, tributes received, and animals hunted, which were activities of the elite. These oracle-bone inscriptions were the early ancestors of modern Chinese script and contained logosyllabic script and numerals.

These examples indicate that early acts of literacy were closely tied to power and chiefly used for management practices, and probably less than 1% of the population was literate, as it was confined to a very small ruling elite.

ORIGINS OF THE ALPHABET

According to social anthropologist Jack Goody, there are two interpretations that regard the origin of the alphabet. Many classical scholars, such as historian Ignace Gelb, credit the Ancient Greeks for creating the first alphabetic system (c. 750 BCE) that used distinctive signs for consonants and vowels. But Goody contests, "The importance of Greek culture of the subsequent history of Western Europe has led to an over-emphasis, by classicists and others, on the addition of specific vowel signs to the set of consonantal ones that had been developed earlier in Western Asia".

Thus, many scholars argue that the ancient Semitic-speaking peoples of northern Canaan (modern-day Syria) invented the consonantal alphabet as early as 1500 BCE. Much of this theory's development is credited to English archeologist Flinders Petrie, who, in 1905, came across a series of Canaanite inscriptions located in the turquoise mines of Serabit el-Khadem. Ten years later, English Egyptologist Alan Gardiner reasoned that these letters contain an alphabet, as well as references to the Canaanite goddess Asherah. In 1948, William F. Albright deciphered the text using additional evidence that had been discovered subsequent to Goody's findings. This included a series of inscriptions from Ugarit, discovered in 1929 by French archaeologist Claude F. A. Schaeffer. Some of these inscriptions were mythological texts (written in an early Canaanite dialect) that consisted of a 32-letter cuneiform consonantal alphabet.

Another significant discovery was made in 1953 when three arrowheads were uncovered, each containing identical Canaanite inscriptions from twelfth century BCE. According to Frank Moore Cross, these inscriptions consisted of alphabetic signs that

originated during the transitional development from pictographic script to a linear alphabet. Moreover, he asserts, "These inscriptions also provided clues to extend the decipherment of earlier and later alphabetic texts".

The consonantal system of the Canaanite language inspired alphabetical developments in subsequent languages. During the Late Bronze Age, successor alphabets appeared throughout the Mediterranean region and sub-developed into three languages: Phoenician, Hebrew and Aramaic.

According to Goody, these cuneiform scripts may have influenced the development of the Greek alphabet several centuries later. Historically, the Greeks contended that their language was modeled after the Phoenicians. However, many Semitic scholars now believe that Ancient Greek is more consistent with an early form Canaanite that was used c. 1100 BCE. While the earliest Greek inscriptions are dated c. eighth century BCE, epigraphical comparisons to Proto-Canaanite suggest that the Greeks may have adopted the language as early as 1100 BCE, and later "added in five characters to represent vowels".

Phoenician, which is considered to contain the first "linear alphabet", rapidly spread to the Mediterranean port cities in northern Canaan. Some archeologists believe that Phoenician scripture had some influence on the developments of the Hebrew and Aramaic alphabets based on the fact that these languages evolved during the same time period, share similar features, and are commonly categorized into the same language group.

When the Israelites migrated to Canaan between 1200 and 1001 BCE, they also adopted a variation of the Canaanite alphabet. Baruch ben Neriah, Jeremiah's scribe, used this alphabet to create the later scripts of the Old Testament. The Early Hebrew alphabet was prominent in the Mediterranean region until Chaldean Babylonian rulers exiled the Jews to Babylon in the sixth century BCE. It was then that the new language ("Square Hebrew") emerged and the older language rapidly died out.

The Aramaic alphabet also emerged sometime between 1200 and 1001 BCE. As the Bronze Age collapsed, the Aramaeans moved into Canaan and Phoenician territories and adopted their scripts. Although early evidence of this writing is scarce, archeologists have uncovered a wide range of later Aramaic texts, written as early as the seventh century BCE. Due to its longevity and prevalence in the region, Achaemenid rulers eventually adopted it as a "diplomatic language". The modern Aramaic alphabet rapidly spread east to the Kingdom of Nabataea, then to Sinai and the Arabian Peninsula, eventually making its way to Africa. Aramaic Merchants carried older variations of the language as far as India, where it later influenced the development of Brahmi scripture. It also led to the developments of Arabic, Pahlavi (an Iranian adaptation), "as well as for a range of alphabets used by early Turkish and Mongol tribes in Siberia, Mongolia and Turkestan". Literacy at this period spread with the merchant classes and may have grown to number 15-20% of the total population.

The Aramaic language eventually died out with spread of Islam and with it, its influence of Arabic.

ANCIENT AND POST-CLASSICAL LITERACY

Until recently it was thought that the majority of people were illiterate in ancient times. However, recent work has challenged this long held notion. Anthony DiRenzo asserts that Roman society was "a civilization based on the book and the register", and "no one, either free or slave, could afford to be illiterate". Similarly Dupont points out, "The written word was all around them, in both public and private life: laws, calendars, regulations at shrines, and funeral epitaphs were engraved in stone or bronze. The Republic amassed huge archives of reports on every aspect of public life".

When the Western Roman Empire fell apart, literacy became a distinguishing mark of the elite, and communications skills were politically important. Even so, in pre-modern times it is unlikely that literacy was found in more than about 30-40% of the population.

In the late fourth century the Desert Father Pachomius expected literacy of a candidate for admission to his monasteries:

they shall give him twenty Psalms or two of the Apostles' epistles or some other part of Scripture. And if he is illiterate he shall go at the first, third and sixth hours to someone who can teach and has been appointed for him. He shall stand before him and learn very studiously and with all gratitude. The fundamentals of a syllable, the verbs and nouns shall all be written for him and even if he does not want to he shall be compelled to read.

MODERN LITERACY REGIONAL

DISPARITIES

Cross-national comparisons of literacy rates are imperfect, given that different countries define literacy in different ways. However, available global data indicates significant variations in literacy rates between world regions. North America, Europe, and Central Asia have achieved almost full adult literacy (individuals at or over the age of 15) for both men and women.

Most countries in East Asia and the Pacific, as well as Latin American and the Caribbean, are above a 90% literacy rate for adults. Illiteracy persists to a greater extent in other regions: 2013 UNESCO Institute for Statistics (UIS) data indicates adult literacy rates of only 78.12% in the Arab States, 67.55% in South and West Asia, and 59.76% in Sub-Saharan Africa.

In much of the world, high youth literacy rates suggest that illiteracy will become less and less common as younger generations with higher educational attainment levels replace older ones. However, in sub-Saharan Africa and South and West Asia, where the vast majority of the world's illiterate youth live, lower school enrollment implies that illiteracy will persist to a greater degree. According to 2013 UIS data, the youth literacy rate (individuals ages 15 to 24) is 84.03% in South and West Asia, and 70.06% in Sub-Saharan Africa.

GENDER DISPARITIES

On a worldwide scale, illiteracy disproportionately impacts women. According to 2015 UIS data collected by the UNESCO Institute for Statistics, about two-thirds (63%) of the world's illiterate adults are women. This disparity was even starker in previous decades: from 1970 to 2000, the global gender gap in literacy decreased by roughly 50%. In recent years, however, this progress has stagnated, with the remaining gender gap holding almost constant over the last two decades. In general, the gender gap in literacy is not as pronounced as the regional gap; that is, differences between countries in overall literacy are often larger than gender differences within countries.

Sub-Saharan Africa, the region with the lowest overall literacy rates, also features the widest gender gap: just 52% of adult females are literate, compared with 68% among adult men. Similar gender disparity persists in two other regions, the Arab States (86% adult male literacy, 70% adult female literacy) and South and West Asia (77% adult male literacy, 58% adult female literacy).

The 1990 World Conference on Education for All, held in Jomtien, Thailand, brought attention to the literacy gender gap and prompted many developing countries to prioritize women's literacy. In the past decade, global development agendas have increasingly addressed the issue of female literacy. For example, UN Secretary-General Ban Ki-moon centered his 2010 International Literacy Day speech around the theme "Empowering Women Through Literacy Empowers Us All," emphasizing the broad societal progress that higher female literacy rates could promote.

In many contexts, female illiteracy is closely connected to other aspects of gender inequality. Martha Nussbaum, for example, has argued that illiterate women are more vulnerable to becoming trapped in an abusive marriage, given that illiteracy limits their employment opportunities and worsens their intra-household bargaining position. Moreover, Nussbaum links literacy to the potential for women to effectively communicate and collaborate with one another in order "to participate in a larger movement for political change."

CHALLENGES OF INCREASING FEMALE LITERACY

Efforts to expand literacy skills among women and girls often face deeply rooted social barriers. Simply making literacy classes available can be ineffective if attendance is not considered a valuable use of the limited time of women and girls.] School age girls, in many contexts, face stronger expectations than their male counterparts to perform household work and care after younger siblings. Generational dynamics can also perpetuate these disparities: illiterate parents may not readily appreciate the value of literacy for their daughters, particularly in traditional, rural societies with expectations that girls will remain at home.

A 2015 review of academic literature conducted by the World Bank and the International Center for Research on Women concluded that child marriage, which predominantly impacts girls, tends to reduce literacy levels. A 2008 analysis of the issue in Bangladesh found that for every additional year of delay in a girl's marriage, her likelihood of literacy increased by 5.6 percent. Similarly, a 2014 study found that in

sub-Saharan Africa, marrying early significantly decreased a girl's probability of literacy, holding other variables constant. A 2015 review of the child marriage literature therefore recommended marriage postponement as part of a strategy to increase educational attainment levels, including female literacy in particular.

GENDER GAP FOR BOYS IN DEVELOPED COUNTRIES

While women and girls comprise the majority of the global illiterate population, in many developed countries a literacy gender gap exists in the opposite direction. Data from the Programme for International Student Assessment (PISA) has consistently indicated the literacy underachievement of boys within member countries of the Organisation for Economic Co-operation and Development (OECD). In view of such findings, many education specialists have recommended changes in classroom practices to better accommodate boys' learning styles, and to remove any gender stereotypes that may create a perception of reading and writing as feminine activities.

SOCIOECONOMIC IMPACT

Many policy analysts consider literacy rates as a crucial measure of the value of a region's human capital. For example, literate people can be more easily trained than illiterate people, and generally have a higher socioeconomic status; thus they enjoy better health and employment prospects. The international community has come to consider literacy as a key facilitator and goal of development. In regard to the Sustainable Development Goals adopted by the UN in 2015, the UNESCO Institute for Lifelong Learning has declared the "central role of literacy in responding to sustainable development challenges such as health, social equality, economic empowerment and environmental sustainability."

HEALTH IMPACTS

Illiterate people are generally less knowledgeable about hygiene and nutritional practices, an unawareness which can exacerbate a wide range of health issues. Within developing countries in particular, literacy rates also have implications for child mortality; in these contexts, children of literate mothers are 50% more likely to live past age 5 than children of illiterate mothers. Public health research has thus increasingly concerned itself with the potential for literacy skills to allow women to more successfully access health care systems, and thereby facilitate gains in child health.

For example, a 2014 descriptive research survey project correlates literacy levels with the socioeconomic status of women in Oyo State, Nigeria. The study claims that developing literacy in this area will bring "economic empowerment and will encourage rural women to practice hygiene, which will in turn lead to the reduction of birth and death rates."

ECONOMIC IMPACTS

Literacy can increase job opportunities and access to higher education. In 2009, the National Adult Literacy agency (NALA) in Ireland commissioned a cost benefit analysis of adult literacy training. This concluded that there were economic gains for the individuals, the companies they worked for, and the Exchequer, as well as the economy and the country as a whole—for example, increased GDP. Korotayev and coauthors have revealed a rather significant correlation between the level of literacy in the early 19th century and successful modernization and economic breakthroughs in the late 20th century, as "literate people could be characterized by a greater innovative-activity level, which provides opportunities for

modernization, development, and economic growth".

LITERACY PROMOTION EFFORTS

While informal learning within the home can play an important role in literacy development, gains in childhood literacy often occur in primary school settings. Continuing the global expansion of public education is thus a frequent focus of literacy advocates. These kinds of broad improvements in education often require centralized efforts undertaken by national governments; alternatively, local literacy projects implemented by NGOs can play an important role, particularly in rural contexts.

Funding for both youth and adult literacy programs often comes from large international development organizations. USAID, for example, steered donors like the Bill and Melinda Gates Foundation and the Global Partnership for Education toward the issue of childhood literacy by developing the Early Grade Reading Assessment. Advocacy groups like the National Institute of Adult Continuing Education have frequently called upon international organizations such as UNESCO, the International Labour Organization, the World Health Organization, and the World Bank to prioritize support for adult women's literacy. Efforts to increase adult literacy often encompass other development priorities as well; for example, initiatives in Ethiopia, Morocco, and India have combined adult literacy programs with vocational skills trainings in order to encourage enrollment and address the complex needs of women and other marginalized groups who lack economic opportunity.

In 2013, the UNESCO Institute for Lifelong Learning published a set of case studies on programs that successfully improved female literacy rates. The report features countries from a variety of regions and of differing income levels, reflecting the general global consensus on "the need to empower women through the acquisition of literacy skills." Part of the impetus for UNESCO's focus on literacy is a broader effort to respond to globalization and "the shift towards knowledge-based societies" that it has produced. While globalization presents emerging challenges, it also provides new opportunities: many education and development specialists are hopeful that new information and communications technologies (ICTs) will have the potential to expand literacy learning opportunities for children and adults, even those in countries that have historically struggled to improve literacy rates through more conventional means.

LITERACY AS A DEVELOPMENT INDICATOR

The Human Development Index, produced by the United Nations Development Programme (UNDP), uses education as one of its three indicators; originally, adult literacy represented two-thirds of this education index weight. In 2010, however, the UNDP replaced the adult literacy measure with mean years of schooling. A 2011 UNDP research paper framed this change as a way to "ensure current relevance," arguing that gains in global literacy already achieved between 1970 and 2010 meant that literacy would be "unlikely to be as informative of the future." Other scholars, however, have since warned against overlooking the importance of literacy as an indicator and a goal for development, particularly for marginalized groups such as women and rural populations.

U.S. PUBLIC LIBRARY EFFORTS TO PROMOTE LITERACY

The public library has long been a force promoting literacy in many countries. In the U.S. context, the American Library Association promotes literacy through the work of the Office for Literacy and Outreach Services. This committee's charge includes ensuring equitable access to information and advocating for adult new and non-readers. The Public Library Association recognizes the importance of early childhood in the role of literacy development and created, in collaboration with the Association

for Library Service to Children, Every Child Ready to Read @your library in order to inform and support parents and caregivers in their efforts to raise children who become literate adults. The release of the National Assessment of Adult Literacy (NAAL) report in 2005 revealed that approximately 14% of U.S. adults function at the lowest level of literacy; 29% of adults function at the basic functional literacy level and cannot help their children with homework beyond the first few grades. The lack of reading skills hinders adults from reaching their full potential. They might have difficulty getting and maintaining a job, providing for their families, or even reading a story to their children. For adults, the library might be the only source of a literacy program.

APRIL 30: DIA! DIVERSITY IN ACTION

Dia! Which stand for Diversity in Action and is also known as "El Dia de los Ninos/El dia de los libros (Children's Day/Book Day)" is a program which celebrates the importance of reading to children from all cultural and linguistic backgrounds. Dia! is celebrated every year on April 30 in schools, libraries, and homes and this website provides tools and programs to encourage reading in children. Parents, caregivers, and educators can even start a book club.

READ/ORANGE COUNTY

This community literacy program was initiated in 1992 by the Orange County Public Library in California. The mission of READ/Orange County is to "create a more literate community by providing diversified services of the highest quality to all who seek them." Potential tutors train during an extensive 23-hour tutor training workshop in which they learn the philosophy, techniques and tools they will need to work with adult learns. After the training, the tutors invest at least 50 hours a year to tutoring their student. The organization builds on people's experience as well as education rather than trying to make up for what has not been learned.

The program seeks to equip students with skills to continue learning in the future. The guiding philosophy is that an adult who learns to read creates a ripple effect in the community. The person becomes an example to children and grandchildren and can better serve the community.

BOULDER READS

Located in Boulder, Colorado, the program recognized the difficulty that students had in obtaining child care while attending tutoring sessions, and joined with the University of Colorado to provide reading buddies to the children of students. Reading Buddies matches children of adult literacy students with college students who meet with them once a week throughout the semester for an hour and a half. The college students receive course credit to try to enhance the quality and reliability of their time. Each Reading Buddies session focuses primarily on the college student reading aloud with the child. The goal is to help the child gain interest in books and feel comfortable reading aloud. Time is also spent on word games, writing letters, or searching for books in the library. Throughout the semester the pair work on writing and illustrating a book together. The college student's grade is partly dependent on the completion of the book. Although Reading Buddies began primarily as an answer to the lack of child care for literacy students, it has evolved into another aspect of the program. Participating children show marked improvement in their reading and writing skills throughout the semester.

HILLSBOROUGH LITERACY COUNCIL (HLC)

Approximately 120,000 adults in Hillsborough County are illiterate or read below the fourth-grade level. Working since 1986, the HLC is "committed to improving literacy by empowering adults through

education". Sponsored by the statewide Florida Literacy Coalition, HLC strives to improve the literacy ability of adults in Hillsborough County, Florida. The HLC provides tutoring for English for speakers of other languages (ESOL). Through one-on-one tutoring, the organization works to help adult students reach at least the fifth-grade level.

BROADER AND COMPLEMENTARY DEFINITIONS

Traditionally, literacy is the ability to use written language actively and passively; one definition of literacy is the ability to "read, write, spell, listen, and speak". Since the 1980s, some have argued that literacy is ideological, which means that literacy always exists in a context, in tandem with the values associated with that context. Prior work viewed literacy as existing autonomously.

Some have argued that the definition of literacy should be expanded. For example, in the United States, the National Council of Teachers of English and the International Reading Association have added "visually representing"[clarification needed] to the traditional list of competencies. Similarly, in Scotland, literacy has been defined as: "The ability to read, write and use numeracy, to handle information, to express ideas and opinions, to make decisions and solve problems, as family members, workers, citizens and lifelong learners". It is argued that literacy includes the cultural, political, and historical contexts of the community in which communication takes place.

A basic literacy standard in many places is the ability to read the newspaper. Increasingly, communication in commerce and in general requires the ability to use computers and other digital technologies. Since the 1990s, when the Internet came into wide use in the United States, some have asserted that the definition of literacy should include the ability to use tools such as web browsers, word processing programs, and text messages. Similar expanded skill sets have been called multimedia literacy, computer literacy, information literacy, and technological literacy. Some scholars propose the idea multiliteracies which includes Functional Literacy, Critical Literacy, and Rhetorical Literacy.

"Arts literacy" programs exist in some places in the United States. Visual literacy also includes the ability to understand visual forms of communication such as body language, pictures, maps, and video. Evolving definitions of literacy often include all the symbol systems relevant to a particular community.

Other genres under study by academia include critical literacy, media literacy, ecological literacy and health literacy With the increasing emphasis on evidence-based decision making, and the use of statistical graphics and information, statistical literacy is becoming a very important aspect of literacy in general. The International Statistical Literacy Project is dedicated to the promotion of statistical literacy among all members of society.

Given that a large part of the benefits of literacy can be obtained by having access to a literate person in the household, some recent literature in economics, starting with the work of Kaushik Basu and James Foster, distinguishes between a "proximate illiterate" and an "isolated illiterate". The former refers to an illiterate person who lives in a household with literates and the latter to an illiterate who lives in a household of all illiterates. What is of concern is that many people in poor nations are not just illiterates but isolated illiterates.

TEACHING LITERACY

Teaching English literacy in the United States is dominated by a focus on a set of discrete decoding skills. From this perspective, literacy—or, rather, reading—comprises a number of subskills that can

be taught to students. These skill sets include phonological awareness, phonics (decoding), fluency, comprehension, and vocabulary. Mastering each of these subskills is necessary for students to become proficient readers.

From this same perspective, readers of alphabetic languages must understand the alphabetic principle to master basic reading skills. For this purpose a writing system is "alphabetic" if it uses symbols to represent individual language sounds, though the degree of correspondence between letters and sounds varies between alphabetic languages. Syllabic writing systems (such as Japanese kana) use a symbol to represent a single syllable, and logographic writing systems (such as Chinese) use a symbol to represent a morpheme.

There are any number of approaches to teaching literacy; each is shaped by its informing assumptions about what literacy is and how it is best learned by students. Phonics instruction, for example, focuses on reading at the level of the word. It teaches readers to observe and interpret the letters or groups of letters that make up words. A common method of teaching phonics is synthetic phonics, in which a novice reader pronounces each individual sound and "blends" them to pronounce the whole word.

Another approach is embedded phonics instruction, used more often in whole language reading instruction, in which novice readers learn about the individual letters in words on a just-in-time, just-in-place basis that is tailored to meet each student's reading and writing learning needs. That is, teachers provide phonics instruction opportunistically, within the context of stories or student writing that feature many instances of a particular letter or group of letters. Embedded instruction combines letter-sound knowledge with the use of meaningful context to read new and difficult words. Techniques such as directed listening and thinking activities can be used to aid children in learning how to read and reading comprehension.

In a 2012 proposal, it has been claimed that reading can be acquired naturally if print is constantly available at an early age in the same manner as spoken language. If an appropriate form of written text is made available before formal schooling begins, reading should be learned inductively, emerge naturally, and with no significant negative consequences. This proposal challenges the commonly held belief that written language requires formal instruction and schooling. Its success would change current views of literacy and schooling. Using developments in behavioral science and technology, an interactive system (Technology Assisted Reading Acquisition, TARA) would enable young pre-literate children to accurately perceive and learn properties of written language by simple exposure to the written form.

In Australia a number of State governments have introduced Reading Challenges to improve literacy. The Premier's Reading Challenge in South Australia, launched by Premier Mike Rann has one of the highest participation rates in the world for reading challenges. It has been embraced by more than 95% of public, private and religious schools.

POST-CONFLICT SETTINGS

Programs have been implemented in regions that have an ongoing conflict or in a post- conflict stage. The Norwegian Refugee Council Pack program has been used in 13 post- conflict countries since 2003. The program organizers believe that daily routines and other wise predictable activities help the transition from war to peace. Learners can select one area in vocational training for a year-long period. They complete required courses in agriculture, life skills, literacy and numeracy. Results have shown that active participation and management of the members of the program are important to the success of the program. These programs share the use of integrated basic education, e.g. literacy, numeracy, scientific knowledge, local history and culture, native and mainstream

language skills, and apprenticeships.

CONTINENT LITERACY IN

EUROPE ENGLAND

Literacy is first documented in the area of modern England on 25 September, 54 BCE, on which day Julius Caesar and Quintus Cicero wrote to Cicero "from the nearest shores of Britain". Literacy was widespread under Roman rule, but became very rare, limited almost entirely to churchmen, after the fall of the Western Roman Empire. In 12th and 13th century England, the ability to recite a particular passage from the Bible in Latin entitled a common law defendant to the so-called benefit of clergy— i.e., trial before an ecclesiastical court, where sentences were more lenient, instead of a secular one, where hanging was a likely sentence. Thus literate lay defendants often claimed the right to benefit of clergy, while an illiterate person who had memorized the psalm used as the literacy test, Psalm 51 ("O God, have mercy upon me..."), could also claim benefit of clergy. Despite lacking a system of free and compulsory primary schooling, England managed to reach near universal literacy in the nineteenth century as a result of shared, informal learning systems such as family members, fellow workers, and/or benevolent employers, to name a few. Even with near universal literacy rates, the gap between male and female literacy rates continued to persist until the early twentieth century. Many female readers in the West during the nineteenth century were able to read, but unable to write given the independence that writing could confer to a woman in a male-dominated society.

WALES

Formal higher education in the arts and sciences in Wales, from the Dark Ages to the 18th century, was the preserve of the wealthy and the clergy. As in England, Welsh history and archaeological finds dating back to the Bronze Age reveal not only reading and writing, but also alchemy, botany, advanced maths and science. Following the Roman occupation and the conquest by the English, education in Wales was at a very low ebb in the early modern period; in particular, formal education was only available in English while the majority of the population spoke only Welsh. The first modern grammar schools were established in Welsh towns such as Ruthin, Brecon, and Cowbridge. One of the first modern national education methods to use the native Welsh language was started by Griffith Jones in 1731. Jones was the rector of Llanddowror from 1716 and remained there for the rest of his life. He organized and introduced a Welsh medium circulating school system, which was attractive and effective for Welsh speakers, while also teaching them English, which gave them access to broader educational sources. The circulating schools may have taught half the country's population to read. Literacy rates in Wales by the mid-18th century were one of the highest.

Dutch schoolmaster and children, 1662

CONTINENTAL EUROPE

The ability to read did not necessarily imply the ability to write. The 1686 church law (*kyrkolagen*) of the Kingdom of Sweden (which at the time included all of modern Sweden, Finland, Latvia and Estonia) enforced literacy on the people, and by 1800 the ability to read was close to 100%. This was directly dependent on the need to read religious texts in the Lutheran faith in Sweden and Finland. As a result, literacy in these countries was inclined towards reading, specifically. But as late as the 19th century, many Swedes, especially women, could not write. The exception to this rule were the men and women of Iceland who achieved widespread literacy without formal schooling, libraries, or printed books via informal tuition by religious leaders and peasant teachers. That said, the situation in England was far worse than in Scandinavia, France, and Prussia: as late as 1841, 33% of all Englishmen and 44% of Englishwomen signed marriage certificates with their mark as they were unable to write (government-financed public education was not available in England until 1870 and, even then, on a limited basis).

Historian Ernest Gellner argues that Continental European countries were far more successful in implementing educational reform precisely because their governments were more willing to invest in the population as a whole. The view that public education contributes to rising literacy levels is shared by the majority of historians.

Although the present-day concepts of literacy have much to do with the 15th-century invention of the movable type printing press, it was not until the Industrial Revolution of the mid-19th century that paper and books became affordable to all classes of industrialized society. Until then, only a small percentage of the population were literate as only wealthy individuals and institutions could afford the materials. Even today, the cost of paper and books is a barrier to universal literacy in some less- industrialized nations.

On the other hand, historian Harvey Graff argues that the introduction of mass schooling was in part an effort to control the type of literacy that the working class had access to. According to Graff, literacy learning was increasing outside of formal settings (such as schools) and this uncontrolled, potentially critical reading could lead to increased radicalization of the populace. In his view, mass schooling was meant to temper and control literacy, not spread it. Graff also points out, using the example of Sweden, that mass literacy can be achieved without formal schooling or instruction in writing.

LITERACY IN NORTH AMERICA

CANADA

COLONIAL DAYS (1600S–1762)

Research on the literacy rates of Canadians in the colonial days rested largely on examinations of the proportion of signatures to marks on parish acts (birth, baptismal, and marriage registrations). Although some researchers have concluded that signature counts drawn from marriage registers in nineteenth century France corresponded closely with literacy tests given to military conscripts, others regard this methodology as a "relatively unimaginative treatment of the complex practices and events that might be described as literacy" (Curtis, 2007, p. 1-2). But censuses (dating back to 1666) and official records of New France offer few clues of their own on the population's levels of literacy, therefore leaving few options in terms of materials from which to draw literary rate estimates.

In his research of literacy rates of males and females in New France, Trudel found that in 1663, of 1,224

persons in New France who were of marriageable age, 59% of grooms and 46% of brides wrote their name; however, of the 3,000-plus colony inhabitants, less than 40% were native born. Signature rates were therefore likely more reflective of rates of literacy among French immigrants. Magnuson's (1985) research revealed a trend: signature rates for the period of 1680–1699 were 42% for males, 30% for females; in 1657-1715, they were 45% for males and 43% for females; in 1745-1754, they were higher for females than for males. He believed that this upward trend in rates of females' ability to sign documents was largely attributed to the larger number of female-to-male religious orders, and to the proportionately more active role of women in health and education, while the roles of male religious orders were largely to serve as parish priests, missionaries, military chaplains and explorers. 1752 marked the date that Canada's first newspaper—the *Halifax Gazette*—began publication.

FROM THE BRITISH CONQUEST (1763) TO CONFEDERATION (1867)

The end of the Seven Years' War in 1763 allowed two Philadelphia printers to come to Québec City and to begin printing a bilingual *Quebec Gazette* in 1764, while in 1785 Fleury Mesplet started publication of the *Montreal Gazette*, which is now the oldest continuing newspaper in the country.

In the 19th century, everything about print changed, and literature in its many forms became much more available. But educating the Canadian population in reading and writing was nevertheless a huge challenge. Concerned about the strong French Canadian presence in the colony, the British authorities repeatedly tried to help establish schools that were outside the control of religious authorities, but these efforts were largely undermined by the Catholic Church and later the Anglican clergy.

From the early 1820s in Lower Canada, classical college curriculum, which was monopolized by the Church, was also subject to growing liberal and lay criticism, arguing it was fit first and foremost to produce priests, when Lower Canadians needed to be able to compete effectively with foreign industry and commerce and with the immigrants who were monopolizing trade (Curtis, 1985). Liberal and lay attempts to promote parish schools generated a reaction from the Catholic and later the Anglican clergy in which the dangers of popular literacy figured centrally. Both churches shared an opposition to any educational plan that encouraged lay reading of the Bible, and spokesmen for both warned of the evil and demoralizing tendencies of unregulated reading in general. Granted the power to organize parish schooling through the Vestry School Act of 1824, the Catholic clergy did nothing effective.

Despite this, the invention of the printing press had laid the foundation for the modern era and universal social literacy, and so it is that with time, "technologically, literacy had passed from the hands of an elite to the populace at large. Historical factors and sociopolitical conditions, however, have determined the extent to which universal social literacy has come to pass".

1868–1986

In 1871 only about half of French Canadian men in Canada self-reported that they were literate, whereas 90 percent of other Canadian men said they could read and write, but information from the Canadian Families Project sample of the 1901 Census of Canada indicated that literacy rates for French Canadians and other Canadians increased, as measured by the ability of men between the ages of 16 and 65 to answer literacy questions. Compulsory attendance in schools was legislated in the late 19th century in all provinces but Quebec, but by then, a change in parental attitudes towards educating the new generation meant that many children were already attending regularly. Unlike the emphasis of school promoters on character formation, the shaping of values,

the inculcation of political and social attitudes, and proper behaviour, many parents supported schooling because they wanted their children to learn to read, write, and do arithmetic.

Efforts were made to exert power and religious, moral, economic/professional, and social/cultural influence over children who were learning to read by dictating the contents of their school readers accordingly. But educators broke from these spheres of influence and also taught literature from a more child-centred perspective: for the pleasure of it (Murphy, 2012).

Educational change in Québec began as a result of a major commission of inquiry at the start of what came to be called the "Quiet Revolution" in the early 1960s. In response to the resulting recommendations, the Québec government revamped the school system in an attempt to enhance the francophone population's general educational level and to produce a better-qualified labour force. Catholic Church leadership was rejected in favour of government administration and vastly increased budgets were given to school boards across the province.

With time, and with continuing inquiry into the literacy achievement levels of Canadians, the definition of literacy moved from a dichotomous one (either a person could, or couldn't write his or her name, or was literate or illiterate), to ones that considered its multidimensionality, along with the qualitative and quantitative aspects of literacy.

In the 1970s, organizations like the Canadian Association for Adult Education (CAAE) believed that one had to complete the 8th grade to achieve functional literacy. Examination of 1976 census data, for example, found that 4,376,655, or 28.4% of Canadians 15 years of age and over reported a level of schooling of less than grade 9 and were thus deemed not functionally literate.

But in 1991, UNESCO formally acknowledged Canada's findings that assessment of educational attainment as proxy measure of literacy was not as reliable as was direct assessment. This dissatisfaction manifested itself in the development of actual proficiency tests that measure reading literacy more directly.

DIRECT SYSTEMATIC MEASURES OF LITERACY IN CANADA, 1987 TO PRESENT

Canada conducted its first literacy survey in 1987 which discovered that there were more than five million functionally illiterate adults in Canada, or 24 per cent of the adult population. Statistics Canada then conducted three national and international literacy surveys of the adult population — the first one in 1989 commissioned by the Human Resources and Skills Development Canada (HRSDC) department.

This first survey was called the "Literacy Skills Used in Daily Activities" (LSUDA) survey, and was modeled on the 1985 U.S. survey of young adults (YALS). It represented a first attempt in Canada to produce skill measures deemed comparable across languages. Literacy, for the first time, was measured on a continuum of skills. The survey found that 16% of Canadians had literacy skills too limited to deal with most of the printed material encountered in daily life whereas 22% were considered "narrow" readers.

In 1994-95, Canada participated in the first multi-country, multi-language assessment of adult literacy, the International Adult Literacy Survey (IALS). A stratified multi- stage probability sample design was used to select the sample from the Census Frame. The sample was designed to yield separate samples for the two Canadian official languages, English and French, and participants were measured on the dimensions of prose literacy, document literacy and quantitative literacy. The survey found that 42.2%, 43% and 42.2% of Canadians between the ages of 16 and 65 scored at the lowest two levels of Prose Literacy, Document Literacy and Quantitative Literacy, respectively. The survey presented many important

correlations, among which was a strong plausible link between literacy and a country's economic potential.

In 2003, Canada participated in the Adult Literacy and Life Skills Survey (ALL). This survey contained identical measures for assessing the prose and document literacy proficiencies, allowing for comparisons between survey results on these two measures and found that 41.9% and 42.6% of Canadians between the ages of 16 and 65 scored at the lowest two levels of Prose Literacy and document literacy respectively. Further, Canadians' mean scores also improved on both the prose and the document literacy scales. Energy production:36%, transportation: 24%, homes and businesses: 12%, industry: 11%, agriculture: 10%, and waste: 7%.

The OECD's Programme for the International Assessment of Adult Competencies (PIAAC) is expected to produce new comparative skill profiles in late 2013.

MEXICO

In the last 40 years the rate of illiteracy in Mexico has been steadily decreasing. In the 1960s, because the majority of the residents of the federal capital were illiterate, the planners of the Mexico City Metro designed a system of unique icons to identify each station in the system in addition to its formal name. However, The INEGI′s census data of 1970 showed a national average illiteracy rate of 25.8%; the last census data puts the national average at 6.9%. Mexico still has a gender educational bias. The illiteracy rate for women in the last census was 8.1% compared with 5.6% for men.

Rates differ across regions and states. Chiapas, Guerrero and Oaxaca, the states with the highest poverty rate, had greater than 15% illiteracy in 2010(17.8%, 16.7% and 16.3 respectively). In contrast, the illiteracy rates in the Federal District (D.F. / Mexico City) and in some northern states like Nuevo León, Baja California and Coahuila were below 3% in the 2010 census (2.1%, 2.2%, 2.6% and 2.6% respectively).

UNITED STATES

One-room school in Alabama c. 1935

Before the 20th century white illiteracy was not uncommon and many of the slave states made it illegal to teach slaves to read. By 1900 the situation had improved somewhat, but 44% of black people remained illiterate.

There were significant improvements for African American and other races in the early 20th century as the descendants of former slaves, who had had no educational opportunities, grew up in the post Civil War period and often had some chance to obtain a basic education. The gap in illiteracy between white and black adults continued to narrow through the 20th century, and in 1979 the rates were about the same.

Full prose proficiency, as measured by the ability to process complex and challenging material such as would be encountered in everyday life, is achieved by about 13% of the general, 17% of the white, and 2% of the African American population. However 86% of the general population had basic or higher prose proficiency as of 2003, with a decrease distributed across all groups in the full proficiency group vs. 1992 of more than 10% consistent with trends, observed results in the SAT reading score to the present (2015).

CULTURAL AND WESTERNIZED LITERACY FOR NATIVE AMERICANS IN THE UNITED STATES

Native youth in front of Carlisle Indian Industrial School in Pennsylvania c. 1900

Before colonization, oral storytelling and communication comprised most if not all Native American literacy. Native people communicated and retained their histories verbally—it was not until the beginning of American Indian boarding schools that reading and writing forms of literacy were forced onto Native Americans. While literacy rates of English increased, forced assimilation exposed Native children to physical and sexual abuse, unsanitary living conditions and even death. Many students ran away in an attempt to hold on to their cultural identity and literary traditions that were relevant to their community. While these formalized forms of literacy prepared Native youth to exist in the changing society, they destroyed all traces of their cultural literacy. Native children would return to their families unable to communicate with them due to the loss of their indigenous language. In the 20th and 21st century, there is still a struggle to learn and maintain cultural language. But education initiatives and programs have increased overall—according to the 2010 census, 86 percent of the overall population of Native Americans and Alaska Natives have high school diplomas, and 28 percent have a bachelor's degree or higher.

LITERACY IN SOUTH AMERICA

In 1964 in Brazil, Paulo Freire was arrested and exiled for teaching peasants to read. Since democracy returned to Brazil, however, there has been a steady increase in the percentage of literate people. Educators with the Axé project within the city of Salvador Bahía attempt to improve literacy rates among urban youth, especially youth living on the streets, through the use of music and dances of the local culture. They are encouraged to continue their education and become professionals.

LITERACY IN AFRICA

The literacy rates in Africa vary significantly between countries. The highest registered literacy rate in the region is in Equatorial Guinea and Libya (both 94.2%), while the lowest literacy rate is in South Sudan (27%). Poorer youth in sub-Saharan Africa have fewer educational opportunities to become literate compared with wealthier families. They often must leave school because of being needed at home to farm or care for siblings.

ALGERIA

The literacy rate of Algeria is around 70%: education is compulsory and free in Algeria up to age of 17.

BOTSWANA

Botswana has among the highest literacy rates in the developing world with around 85% of its population being literate.

BURKINA FASO

Burkina Faso has a very low literacy rate of 28.7%. The government defines literacy as anyone at least 15 years of age and up who can read and write. To improve the literacy rate, the government has received at least 80 volunteer teachers. A severe lack of primary school teachers causes problems for any attempt to improve the literacy rate and school enrollment.

EGYPT

Egypt has a relatively high literacy rate. The adult literacy rate in 2010 was estimated at 72%. Education is compulsory from ages 6 to 15 and free for all children to attend. 93% of children enter primary school today, compared with 87% in 1994.

DJIBOUTI

Djibouti has an estimated literacy rate of 70%.

ERITREA

According to the Ministry of Information of Eritrea, the nation has an estimated literacy rate of 80%.

ETHIOPIA

The Ethiopians are among the first literate people in the world, having written, read, and created

manuscripts in their ancient language of Ge'ez (Amharic) since the second century CE. All boys learned to read the Psalms around the age of 7. National literacy campaign introduced in 1978 increased literacy rates to between 37% (unofficial) and 63% (official) by 1984.

GUINEA

Guinea has a literacy rate of 41%. The Guinea government defines literacy as anyone who can read or write who is at least 15 years old. Guinea was the first to use the Literacy, Conflict Resolution, and Peacebuilding project. This project was developed to increase agriculture production, develop key skills, resolve conflict, improve literacy, and numeracy skills. The LCRP worked with in refugee camps near the border of Sierra Leone, however this project only lasted from 1999 to 2001. There are several other international projects working within the country that have similar goals.

KENYA

The literacy rate in Kenya among people below 20 years of age is over 70%, as the first 8 years of primary school are provided tuition-free by the government. In January 2008, the government began offering a restricted program of free secondary education. Literacy is much higher among the young than the old population, with the total being about 53% for the country. Most of this literacy, however, is elementary—not secondary or advanced.

MALI

Mali has one of the lowest literacy rates in the world, at 33.4%, with males having a 43.1% literacy rate and females having a 24.6% literacy rate. The government defines literacy as anyone who is at least 15 and over who can read or write. The government of Mali and international organizations in recent years has taken steps to improve the literacy rate.

The Government recognized the slow progress in literacy rates and began created ministries for basic education and literacy for their national languages in 2007. To also improve literacy the government planned to increase its education budget by 3%, when this was purposed it was at 35% in 2007. The lack of literate adults causes the programs to be slowed. The programs need qualified female trainers is a major problem because most men refuse to send female family members to be trained under male teachers.

MAURITIUS

Free education in Mauritius didn't proceed beyond the primary level until 1976, so many women now in their 50s or older left school at age 12. The younger generation (below 50) are however extremely well educated with very high educational expectations placed upon pupils. Education is today free from pre-primary to tertiary (only admission fees remain at University level).

Most professional people have at least a bachelor's degree. Mauritian students consistently rank top in the world each year for the Cambridge International O Level, International A and AS level examinations. Most Mauritian children, even at primary level, attend tuition after school and at weekends to cope with the highly competitive public school system where admission to prestigious public colleges (secondary) and most sought after university courses depend on merit based academic performance.

The adult literacy rate was estimated at 89.8% in 2011. Male literacy was 92.3% and Female literacy 87.3%.

NIGERIA

Nigeria has an extremely low literacy rate at 28.7%. However, the gender gap between males and females is a major problem for the country, males have a literacy rate of 42.9% and females a literacy rate of 15.1%. The Nigerian government defines literacy as anyone who can read or write over the age of 15. The Niass Tijaniyya, a predominate group of the Sufi brotherhoods, has started anti-poverty, empowerment, and literacy campaigns. The women in Kiota had not attempted to improve their education, or economic standing. Saida Oumul Khadiri Niass, known as Maman, through talking to men and women throughout the community changed the community's beliefs on appropriate behavior for women because the community recognized she was married to a leader of the Niass Tijaniyya. Maman's efforts has allowed women in Kiota to own small businesses, sell in the market place, attend literacy classes, and organize small associations that can give micro loans. Maman personally teaches children in and around Kiota, with special attention to girls. Maman has her students require instructor permission to allow the girls' parents to marry their daughters early. This increases the amount of education these girls receive, as well as delaying marriage and pregnancy.

SENEGAL

Senegal has a literacy rate of 49.7%; the government defines literacy as anyone who is at least 15 years of age and over who can read and write. However, many students do not attend school long enough to be considered literate. The government did not begin actively attempting to improve the literacy rate until 1971 when it gave the responsibility to Department for Vocational Training at the Secretariat for Youth and Sports. This department and subsequent following departments had no clear policy on literacy until the Department of Literacy and Basic Education was formed in 1986. The government of Senegal relies heavily on funding from the World Bank to fund its school system.

SOMALIA

There is no reliable data on the nationwide literacy rate in Somalia. A 2013 FSNAU survey indicates considerable differences per region, with the autonomous northeastern Puntland region having the highest registered literacy rate at 72%.

SIERRA LEONE

The Sierra Leone government defines literacy as anyone over the age of 15 who can read and write in English, Mende, Temne, or Arabic. Official statics put the literacy rate at 43.3%. Sierra Leone was the second country to use the Literacy, Conflict Resolution and Peacebuilding project. However, due to fighting near the city where the project was centered causing the project to be delayed until an arms amnesty was in place.

UGANDA

Uganda has a literacy rate of 66.8%.

ZIMBABWE

Zimbabwe has a high literacy rate of 90.7% (2003 est.).

LITERACY IN ASIA

Country	Adult LiteracyRate	Youth LiteracyRate 15-24 age
India	74.04% (2011)	89.6% (2015)
Nepal	67.5% (2007)	89.9% (2015)
Pakistan	65.2% (2015)	75.6% (2015)
Bangladesh	71.1 (2013)	83.2% (2015)

AFGHANISTAN

Young school girls in Paktia Province of Afghanistan

Afghanistan has one of the lowest literacy rates in the world at 28.1% with males having a literacy rate of 43.1% and females with a literacy rate of 12.6%. The Afghan government considers someone literate if they are 15 years of age or older, and if they can read and write.

To improve the literacy rate U.S. military trainers have been teaching Afghan Army recruits how to read before teaching to fire a weapon. U.S. commanders in the region estimate that as many as 65% of recruits may be illiterate.

CHINA

The PRC conducts standardized testing to assess proficiency in Standard Chinese, known as "putonghua," but it is primarily for foreigners or those needing to demonstrate professional proficiency[*who?*] in the Beijing dialect. Literacy in languages like Chinese can be assessed by reading comprehension tests, just as in other languages, but historically has often been graded on the number of Chinese characters introduced during the speaker's schooling, with a few thousand considered the minimum for practical literacy. Social science surveys in China have repeatedly found that just more than half the population of China is conversant in spoken putonghua.

INDIA

Literacy is defined by the Registrar General and Census Commissioner of India, as "[the ability of] a person aged 7 years and above [to]... both write and read with understanding in any language." According to the 2011 census, 74.04 percent of the population of India is literate. High rates of literacy are concentrated predominantly in urbanized metropolitan areas, with the urban and rural literacy rates being 84 percent and 69 percent, respectively.

Three Laotian girls sit outside their school, each absorbed in reading a book they received at a rural school book party.

Obstacles to literacy vary by country and culture as writing systems, quality of education, availability of written material, competition from other sources (television, video games, cell phones, and family work obligations), and culture all influence literacy levels. In Laos, which has a phonetic alphabet, reading is relatively easy to learn—especially compared to English, where spelling and pronunciation rules are filled with exceptions, and Chinese, with thousands of symbols to be memorized. But a lack of books and other written materials has hindered functional literacy in Laos, where many children and adults read so haltingly that the skill is hardly beneficial.

A literacy project in Laos addresses this by using what it calls "books that make literacy fun!" The project, Big Brother Mouse, publishes colorful, easy-to-read books, then delivers them by holding book parties at rural schools. Some of the books are modeled on successful western books by authors such as Dr. Seuss; the most popular, however, are traditional Lao fairy tales. Two popular collections of folktales were written by Siphone Vouthisakdee, who comes from a village where only five children finished primary school.

Big Brother Mouse has also created village reading rooms, and published books for adult readers about

subjects such as Buddhism, health, and baby care.

PAKISTAN

In Pakistan, the National Commission for Human Development (NCHD) aims to bring literacy to adults, especially women. ISLAMABAD - UNESCO Islamabad Director Kozue Kay Nagata has said, "Illiteracy in Pakistan has fallen over two decades, thanks to the government and people of Pakistan for their efforts working toward meeting the Millennium Development Goals". "Today, 70 percent of Pakistani youths can read and write. In 20 years, illiterate population has been reduced significantly", she said while speaking at a function held in connection with International Literacy Day.

However, she also emphasised on the need to do more to improve literacy in the country and said, "The proportion of population in Pakistan lacking basic reading and writing is too high. This is a serious obstacle for individual fulfillment, to the development of societies, and to mutual understanding between peoples." Referring to the recent national survey carried out by the Ministry of Education, Trainings and Standards in Higher Education with support of UNESCO, UNICEF, and provincial and areas departments of education, Nagata pointed out that, in Pakistan, although primary school survival rate is 70 percent, gender gap still exists with only 68 percent of girls' survival rate compared to 71 percent for boys. Specifically in the case of Punjab, she said, primary school survival rate today is better with 76 percent, but not without a gender gap of 8 percent points with 72 percent girls' survival rate compared to 80 percent for boys. She also pointed out that average per student spending in primary level (age 5-9) was better in Punjab: Rs 6,998, compared to the national average. In Balochistan, although almost the same amount (Rs 6,985) as in Punjab is spent per child, the primary school survival rate is only 53 percent. Girls' survival rate is slightly better with 54 percent than that of boys which is 52 percent.

The data of the survey shows that in Khyber Pakhtunkhwa, primary school survival rate is 67 percent which is lower than the national average of 70 percent. Furthermore, gender gap also exists with only 65 percent of girls' survival rate compared to that of boys which is 68 percent. Per-student education expenditure in primary level (age 5-9) in Khyber Pakhtunkhwa is Rs 8,638. In Sindh, primary school survival rate is 63 percent, with a gender gap of only 67 percent of girls' survival rate compared to 60 percent for boys. Per student education expenditure in primary level (age 5-9) in Sindh is Rs 5,019. Nagata made reference to the survey report and mentioned that the most common reason in Pakistan for children (both boys and girls) of age 10 to 18 years leaving school before completing primary grade is "the child not willing to go to school", which may be related to quality and learning outcome. She said, however, and sadly, for the girls living in rural communities the second highest reason for dropout is "parents did not allow" which might be related to prejudice and cultural norm against girls.

PHILIPPINES

Baybayin a script belong to Brahmic Family
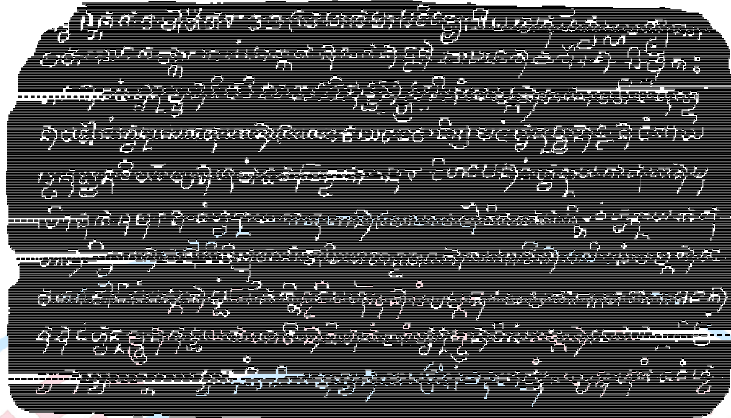
LagunaCopperplateInscription(c.900),athincopperplatedocumentmeasuring less than 8x12 inches in size, shows heavy Hindu-Malayan cultural influences present in the Philippines during the 10th Century.

Early Filipinos devised and used their own system of writings from 300 BC, which derived from the Brahmic family of scripts of Ancient India. Baybayin became the most widespread of these derived scripts by the 11th century.

Early chroniclers, who came during the first Spanish expeditions to the islands, noted the proficiency of some of the natives, especially the chieftain and local kings, in Sanskrit, Old Javanese, Old Malay, and several other languages.

During the Spanish colonization of the islands, reading materials were destroyed to a far much less extent compared to the Spanish colonization of the Americas. Education and literacy was introduced only to the Peninsulares and remained a privilege until the Americans came.

The Americans introduced the public schools system to the country which drove literacy rates up. English became the lingua franca in the Philippines. It was only during a brief period in the Japanese occupation of the Philippines that the Japanese were able to teach their language in the Philippines and teach the children their written language.

After World War II, the Philippines had the highest literacy rates in Asia. It nearly achieved universal literacy once again in the 1980s and 1990s. Ever since then, the literacy rate has plummeted only to start regaining a few percentage years back.

The DepEd, CHED, and other academic institutions encourage children to improve literacy skills and knowledge. The government has a program of literacy teaching starting in kindergarten. New reforms are being brought in shifting to a K-12 system which will teach children their regional languages before English, as opposed to the ten-year basic education program which teaches English and Filipino, the country's two official languages, from Grade 1.

LITERACY IN AUSTRALIA

Approximately 56% of Australians aged 15 to 74 achieve Level 3 literacy or above Australian Bureau of Statistics 2011-2012 and 83% of five-year-olds are on track to develop good language and cognitive skills Australian Early Development Census 2012 summary report. In 2012-2013, Australia had 1515 public library service points, lending almost 174 million items to 10 million members of Australian public library services, at an average per capita cost of just under AU$45 Australian

Public Library Statistics 2012-2013

Chapter 7
Education for All in the Third Millennium

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and directed research. Education frequently takes place under the guidance of educators, but learners may also educate themselves. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. The methodology of teaching is called pedagogy.

Lecture at the Faculty of Biomedical Engineering, CTU, in Prague

School children sitting in the shade of an orchard in Bamozai, near Gardez, Paktya Province, Afghanistan Student participants in the FIRST Robotics Competition, Washington, D.C.

Education is commonly divided formally into such stages as preschool or kindergarten, primary school, secondary school and then college, university, or apprenticeship.

A right to education has been recognized by some governments, including at the global level: Article 13 of the United Nations' 1966 International Covenant on Economic, Social and Cultural Rights recognizes a universal right to education. In most regions education is compulsory up to a certain age.

ETYMOLOGY

Etymologically, the word "education" is derived from the Latin *ēducātiō* ("A breeding, a bringing up, a rearing") from *ēdūcō* ("I educate, I train") which is related to the homonym *ēdūcō* ("I lead forth, I take out; I raise up, I erect") from *ē*-("from, out of") and *dūcō* ("I lead, I conduct").

HISTORY

Nalanda, ancient centre for higher learning

Plato's academy, mosaic from Pompeii

Education began in prehistory, as adults trained the young in the knowledge and skills deemed necessary in their society. In pre-literate societies this was achieved orally and through imitation. Story-telling passed knowledge, values, and skills from one generation to the next. As cultures began to extend their knowledge beyond skills that could be readily learned through imitation, formal education developed. Schools existed in Egypt at the time of the Middle Kingdom.

Matteo Ricci (left) and Xu Guangqi (right) in the Chinese edition of Euclid's Elements published in 1607

Plato founded the Academy in Athens, the first institution of higher learning in Europe. The city of Alexandria in Egypt, established in 330 BCE, became the successor to Athens as the intellectual cradle of Ancient Greece. There, the great Library of Alexandria was built in the 3rd century BCE. European civilizations suffered a collapse of literacy and organization following the fall of Rome in AD 476.

In China, Confucius (551-479 BCE), of the State of Lu, was the country's most influential ancient philosopher, whose educational outlook continues to influence the societies of China and neighbours like Korea, Japan and Vietnam. Confucius gathered disciples and searched in vain for a ruler who would adopt his ideals for good governance, but his Analects were written down by followers and have continued to influence education in East Asia into the modern era. After the Fall of Rome, the Catholic Church became the sole preserver of literate scholarship in Western Europe. The church established cathedral schools in the Early Middle Ages as centres of advanced education. Some of these establishments ultimately evolved into medieval universities and forebears of many of Europe's modern universities. During the High Middle Ages, Chartres Cathedral operated the famous and influential Chartres Cathedral School. The medieval universities of Western

Christendom were well- integrated across all of Western Europe, encouraged freedom of inquiry, and produced a great variety of fine scholars and natural philosophers, including Thomas Aquinas of the University of Naples, Robert Grosseteste of the University of Oxford, an early expositor of a systematic method of scientific experimentation, and Saint Albert the Great, a pioneer of biological field research. Founded in 1088, the University of Bologne is considered the first, and the oldest continually operating university.

Elsewhere during the Middle Ages, Islamic science and mathematics flourished under the Islamic caliphate which was established across the Middle East, extending from the Iberian Peninsula in the west to the Indus in the east and to the Almoravid Dynasty and Mali Empire in the south.

The Renaissance in Europe ushered in a new age of scientific and intellectual inquiry and appreciation of ancient Greek and Roman civilizations. Around 1450, Johannes Gutenberg developed a printing press, which allowed works of literature to spread more quickly. The European Age of Empires saw European ideas of education in philosophy, religion, arts and sciences spread out across the globe. Missionaries and scholars also brought back new ideas from other civilizations — as with the Jesuit China missions who played a significant role in the transmission of knowledge, science, and culture between China and Europe, translating works from Europe like Euclid's Elements for Chinese scholars and the thoughts of Confucius for European audiences. The Enlightenment saw the emergence of a more secular educational outlook in Europe.

In most countries today, full-time education, whether at school or otherwise, is compulsory for all children up to a certain age. Due to this the proliferation of compulsory education, combined with population growth, UNESCO has calculated that in the next 30 years more people will receive formal education than in all of human history thus far.

FORMAL EDUCATION

Formal education occurs in a structured environment whose explicit purpose is teaching students. Usually, formal education takes place in a school environment with classrooms of multiple students learning together with a trained, certified teacher of the subject. Most school systems are designed around a set of values or ideals that govern all educational choices in that system. Such choices include curriculum, organizational models, design of the physical learning spaces (e.g. classrooms), student- teacher interactions, methods of assessment, class size, educational activities, and more.

PRESCHOOL

Preschools provide education from ages approximately three to seven, depending on the country, when children enter primary education. These are also known as nursery schools and as kindergarten, except in the US, where kindergarten is a term used for primary education. Kindergarten "provide[s] a child-centred, preschool curriculum for three- to seven-year-old children that aim[s] at unfolding the child's physical, intellectual, and moral nature with balanced emphasis on each of them."

PRIMARY

Primary (or elementary) education consists of the first five to seven years of formal, structured education. In general, primary education consists of six to eight years of schooling starting at the age of five or six, although this varies between, and sometimes within, countries. Globally, around 89% of children aged six to twelve are enrolled in primary education, and this proportion is rising. Under the Education For All programs driven by UNESCO, most countries have committed to achieving universal enrollment in primary education by 2015, and in many countries, it is compulsory. The division between primary and secondary education is somewhat arbitrary, but it generally occurs at about

eleven or twelve years of age. Some education systems have separate middle schools, with the transition to the final stage of secondary education taking place at around the age of fourteen. Schools that provide primary education, are mostly referred to as *primary schools* or *elementary schools*. Primary schools are often subdivided into infant schools and junior school.

In India, for example, compulsory education spans over twelve years, with eight years of elementary education, five years of primary schooling and three years of upper primary schooling. Various states in the republic of India provide 12 years of compulsory school education based on a national curriculum framework designed by the National Council of Educational Research and Training.

Young children in a kindergarten in Japan

Primary school students with their teacher, Colombia, 2014

Students working with a teacher at Albany Senior High School, New Zealand

Chilean high school students during a class photograph, 2002

SECONDARY

In most contemporary educational systems of the world, secondary education comprises the formal education that occurs during adolescence. It is characterized by transition from the typically compulsory, comprehensive primary education for minors, to the optional, selective tertiary, "postsecondary", or "higher" education (e.g. university, vocational school) for adults. Depending on the system, schools for this period, or a part of it, may be called secondary or high schools, gymnasiums, lyceums, middle schools, colleges, or vocational schools. The exact meaning of any of these terms varies from one system to another. The exact boundary between primary and secondary education also varies from country to country and even within them, but is generally around the seventh to the tenth year of schooling. Secondary education occurs mainly during the teenage years. In the United States,

Canada and Australia, primary and secondary education together are sometimes referred to as K-12 education, and in New Zealand Year 1–13 is used. The purpose of secondary education can be to give common knowledge, to prepare for higher education, or to train directly in a profession.

Secondary education in the United States did not emerge until 1910, with the rise of large corporations and advancing technology in factories, which required skilled workers. In order to meet this new job demand, high schools were created, with a curriculum focused on practical job skills that would better prepare students for white collar or skilled blue collar work. This proved beneficial for both employers and employees, since the improved human capital lowered costs for the employer, while skilled employees received a higher wages.

Secondary education has a longer history in Europe, where grammar schools or academies date from as early as the 16th century, in the form of public schools, fee- paying schools, or charitable educational foundations, which themselves date even further back.

Community colleges offer another option at this transitional stage of education. They provide nonresidential junior college courses to people living in a particular area.

TERTIARY (HIGHER)
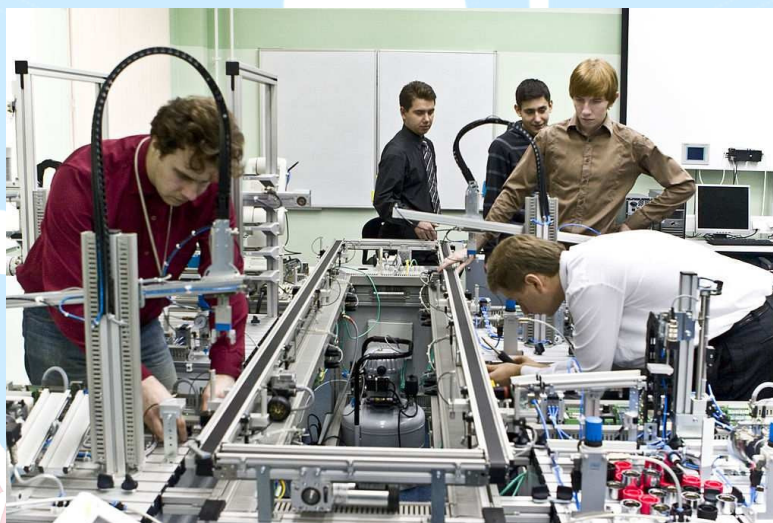
Students in a laboratory, Saint Petersburg State Polytechnical University

Higher education, also called tertiary, third stage, or postsecondary education, is the non-compulsory educational level that follows the completion of a school such as a high school or secondary school. Tertiary education is normally taken to include undergraduate and postgraduate education, as well as vocational education and training. Colleges and universities mainly provide tertiary education. Collectively, these are sometimes known as tertiary institutions. Individuals who complete tertiary education generally receive certificates, diplomas, or academic degrees.

Higher education typically involves work towards a degree-level or foundation degree qualification. In most developed countries a high proportion of the population (up to 50%) now enter higher education at some time in their lives. Higher education is therefore very important to national economies, both as a significant industry in its own right, and as a source of trained and educated personnel for the rest of the economy.

University education includes teaching, research, and social services activities, and it includes both

the undergraduate level (sometimes referred to as tertiary education) and the graduate (or postgraduate) level (sometimes referred to as graduate school). Universities are generally composed of several colleges. In the United States, universities can be private and independent like Yale University; public and state- governed like the Pennsylvania State System of Higher Education; or independent but state-funded like the University of Virginia. A number of career specific courses are now available to students through the Internet.

One type of university education is a liberal arts education, which can be defined as a "college or university curriculum aimed at imparting broad general knowledge and developing general intellectual capacities, in contrast to a professional, vocational, or technical curriculum." Although what is known today as liberal arts education began in Europe, the term "liberal arts college" is more commonly associated with institutions in the United States.

VOCATIONAL

Vocational education is a form of education focused on direct and practical training for a specific trade or craft. Vocational education may come in the form of an apprenticeship or internship as well as institutions teaching courses such as carpentry, agriculture, engineering, medicine, architecture and the arts.

Carpentry is normally learned through apprenticeship.

SPECIAL

In the past, those who were disabled were often not eligible for public education. Children with disabilities were repeatedly denied an education by physicians or special tutors. These early physicians (people like Itard, Seguin, Howe, Gallaudet) set the foundation for special education today. They focused on individualized instruction and functional skills. In its early years, special education was only provided to people with severe disabilities, but more recently it has been opened to anyone who has experienced difficulty learning.

OTHER EDUCATIONAL FORMS ALTERNATIVE

While considered "alternative" today, most alternative systems have existed since ancient times. After the public school system was widely developed beginning in the 19th century, some parents found reasons to be discontented with the new system. Alternative education developed in part as a reaction to perceived limitations and failings of traditional education. A broad range of educational approaches emerged, including alternative schools, self learning, homeschooling and unschooling. Example alternative schools include Montessori schools, Waldorf schools (or Steiner schools), Friends schools, Sands School, Summerhill School, Walden's Path, The Peepal Grove School, Sudbury Valley School, Krishnamurti schools, and open classroom schools. Charter schools are another example of alternative education, which have in the recent years grown in numbers in the US and gained greater importance in its public education system.

In time, some ideas from these experiments and paradigm challenges may be adopted as the norm in education, just as Friedrich Fröbel's approach to early childhood education in 19th-century Germany has been incorporated into contemporary kindergarten classrooms. Other influential writers and thinkers have included the Swiss humanitarian Johann Heinrich Pestalozzi; the American transcendentalists Amos Bronson Alcott, Ralph Waldo Emerson, and Henry David Thoreau; the founders of progressive education, John Dewey and Francis Parker; and educational pioneers such as Maria Montessori and Rudolf Steiner, and more recently John Caldwell Holt, Paul Goodman, Frederick Mayer, George Dennison and Ivan Illich.

INDIGENOUS

Indigenous education refers to the inclusion of indigenous knowledge, models, methods, and content within formal and non-formal educational systems. Often in a post-colonial context, the growing recognition and use of indigenous education methods can be a response to the erosion and loss of indigenous knowledge and language through the processes of colonialism. Furthermore, it can enable indigenous communities to "reclaim and revalue their languages and cultures, and in so doing, improve the educational success of indigenous students."

Teaching indigenous knowledge, models, methods in Yanyuan County, Sichuan in China

INFORMAL LEARNING

Informal learning is one of three forms of learning defined by the Organisation for Economic Co-operation and Development (OECD). Informal learning occurs in a variety of places, such as at home, work, and through daily interactions and shared relationships among members of society. For many learners this includes language acquisition, cultural norms and manners. Informal learning for young people is an ongoing process that also occurs in a variety of places, such as out of school time, in youth programs at community centres and media labs. Informal learning usually takes place outside educational establishments, does not follow a specified curriculum and may originate accidentally, sporadically, in association with certain occasions, from changing practical requirements. It is not necessarily planned to be pedagogically conscious, systematic and according to subjects, but rather unconsciously incidental, holistically problem-related, and related to situation management and fitness for life. It is experienced directly in its "natural" function of everyday life and is often spontaneous.

The concept of 'education through recreation' was applied to childhood development in the 19th century. In the early 20th century, the concept was broadened to include young adults but the emphasis was on physical activities. L.P. Jacks, also an early proponent of lifelong learning, described education through recreation: "*A master in the art of living draws no sharp distinction between his work and his play, his labour and his leisure, his mind and his body, his education and his recreation. He hardly knows which is which. He simply pursues his vision of excellence through whatever he is doing and leaves others to determine whether he is working or playing. To himself he always seems to be doing both. Enough for him that he does it well.*" Education through recreation is the opportunity to learn in a seamless fashion through all of life's activities. The concept has been revived by the University of Western Ontario to teach anatomy to medical students.

SELF-DIRECTED LEARNING

Autodidacticism (also autodidactism) is a contemplative, absorbing process, of "learning on your own" or "by yourself", or as a self-teacher. Some autodidacts spend a great deal of time reviewing the resources of

libraries and educational websites. One may become an autodidact at nearly any point in one's life. While some may have been informed in a conventional manner in a particular field, they may choose to inform themselves in other, often unrelated areas. Notable autodidacts include Abraham Lincoln (U.S. president), Srinivasa Ramanujan (mathematician), Michael Faraday (chemist and physicist), Charles Darwin (naturalist), Thomas Alva Edison (inventor), Tadao Ando (architect), George Bernard Shaw (playwright), Frank Zappa (composer, recording engineer, film director), and Leonardo da Vinci (engineer, scientist, mathematician).

OPEN EDUCATION AND ELECTRONIC TECHNOLOGY

In 2012, the modern use of electronic educational technology (also called e-learning) had grown at 14 times the rate of traditional learning. Open education is fast growing to become the dominant form of education, for many reasons such as its efficiency and results compared to traditional methods. Cost of education has been an issue throughout history, and a major political issue in most countries today. Online courses often can be more expensive than face-to-face classes.

Out of 182 colleges surveyed in 2009 nearly half said tuition for online courses was higher than for campus based ones. Many large university institutions are now starting to offer free or almost free full courses such as Harvard, MIT and Berkeley teaming up to form edX. Other universities offering open education are Stanford, Princeton, Duke, Johns Hopkins, Edinburgh, U. Penn, U. Michigan, U. Virginia, U. Washington, and Caltech. It has been called the biggest change in the way we learn since the printing press. Despite favourable studies on effectiveness, many people may still desire to choose traditional campus education for social and cultural reasons.

The conventional merit-system degree is currently not as common in open education as it is in campus universities, although some open universities do already offer conventional degrees such as the Open University in the United Kingdom. Presently, many of the major open education sources offer their own form of certificate. Due to the popularity of open education, these new kind of academic certificates are gaining more respect and equal "academic value" to traditional degrees.

Many open universities are working to have the ability to offer students standardized testing and traditional degrees and credentials. A culture is beginning to form around distance learning for people who are looking to social connections enjoyed on traditional campuses. For example, students may create study groups, meetups and movements such as UN College.

DEVELOPMENT GOALS

Since 1909, the ratio of children in the developing world attending school has increased. Before then, a small minority of boys attended school. By the start of the 21st century, the majority of all children in most regions of the world attended school.
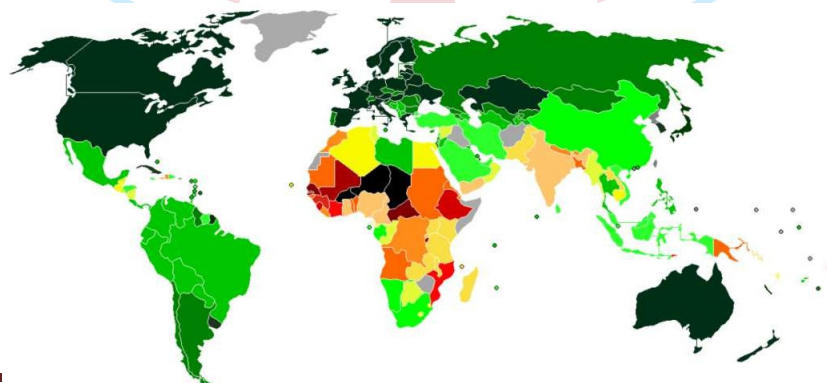
World map indicating Education Index (according to 2007/2008 Human Development Report)
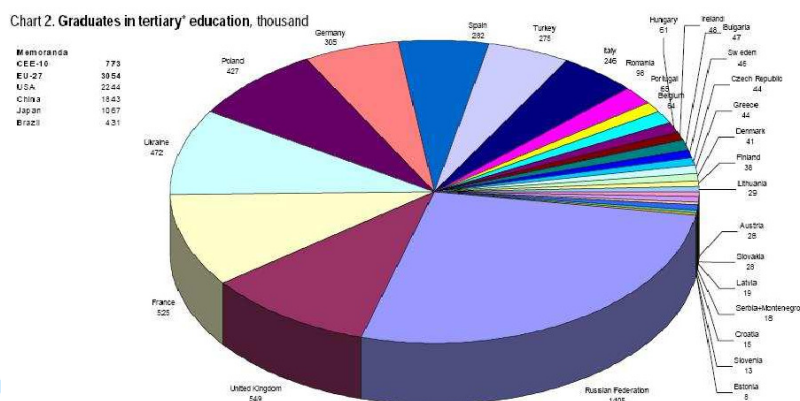
Russia has more academic graduates than any other country in Europe.
(Chart does not include population statistics.)

Universal Primary Education is one of the eight international Millennium Development Goals, towards which progress has been made in the past decade, though barriers still remain. Securing charitable funding from prospective donors is o e particularly persistent problem. Researchers at the Overseas Development Institute have indicated that the main obstacles to funding for education include conflicting donor priorities, an immature aid architecture, and a lack of evidence and advocacy Additionally, for the issue. the Transparency International has identified corruption in education

A study conducted by the UNESCO International Institute for Educational Planning indicates that stronger capacities in educational planning and management may have an important spill-over effect on the system as a whole. Sustainable capacity development requires complex interventions at the institutional, organizational and individual levels that could be based on some foundational principles:

- national leadership and ownership should be the touchstone of any intervention;
- strategies must be context relevant and context specific;
- plans should employ an integrated set of complementary interventions, though implementation may need to proceed in steps;
- partners should commit to a long-term investment in capacity development, while working towards some short-term achievements;
- outside intervention should be conditional on an impact assessment of national capacities at various levels;
- a certain percentage of students should be removed for improvisation of academics (usually practiced in schools, after 10th grade).

INTERNATIONALIZATION

Nearly every country now has Universal Primary Education.

Similarities — in systems or even in ideas — that schools share internationally have led to an increase in international student exchanges. The European Socrates-Erasmus Program facilitates exchanges across European universities. The Soros Foundation provides many opportunities for students from central Asia and eastern Europe. Programs such as the International Baccalaureate have contributed to the internationalization of education. The global campus online, led by American universities, allows free access to class materials and lecture files recorded during the actual classes.

EDUCATION AND TECHNOLOGY IN DEVELOPING COUNTRIES

The OLPC laptop being introduced to children in Haiti

Technology plays an increasingly significant role in improving access to education for people living in impoverished areas and developing countries. Charities like One Laptop per Child are dedicated to providing infrastructures through which the disadvantaged may access educational materials.

The OLPC foundation, a group out of MIT Media Lab and supported by several major corporations, has a stated mission to develop a $100 laptop for delivering educational software. The laptops were widely available as of 2008. They are sold at cost or given away based on donations.

In Africa, the New Partnership for Africa's Development (NEPAD) has launched an "e- school program" to provide all 600,000 primary and high schools with computer equipment, learning materials and internet access within 10 years. An International Development Agency project called nabuur.com, started with the support of former American President Bill Clinton, uses the Internet to allow co-operation by individuals on issues of social development.

India is developing technologies that will bypass land-based telephone and Internet infrastructure to deliver distance learning directly to its students. In 2004, the Indian Space Research Organisation launched EDUSAT, a communications satellite providing access to educational materials that can reach more of the country's population at a greatly reduced cost.

## PRIVATE *vs.* PUBLIC FUNDING IN DEVELOPING COUNTRIES

Research into LCPS (low cost private schools) found that over 5 years to July 2013, debate around LCPSs to achieving Education for All (EFA) objectives was polarized and finding growing coverage in international policy. The polarization was due to disputes around whether the schools are affordable for the poor, reach disadvantaged groups, provide quality education, support or undermine equality, and are financially sustainable. The report examined the main challenges encountered by development organizations which support LCPSs. Surveys suggest these types of schools are expanding across Africa and Asia. This success is attributed to excess demand. These surveys found concern for:

- Equity: This concern is widely found in the literature, suggesting the growth in low-cost private schooling may be exacerbating or perpetuating already existing inequalities in developing countries, between urban and rural populations, lower- and higher-income families, and between girls and boys. The report findings suggest that girls may be underrepresented and that LCPS are reaching low-income families in smaller numbers than higher-income families.
- Quality and educational outcomes: It is difficult to generalize about the quality of private schools. While most achieve better results than government counterparts, even after their social background is taken into account, some studies find the opposite. Quality in terms of levels of teacher absence, teaching activity, and pupil to teacher ratios in some countries are better in LCPSs than in government schools.
- Choice and affordability for the poor: Parents can choose private schools because of perceptions of better-quality teaching and facilities, and an English language instruction preference. Nevertheless, the concept of 'choice' does not apply in all contexts, or to all groups in society, partly because of limited affordability (which excludes most of the poorest) and other forms of exclusion, related to caste or social status.

- Cost-effectiveness and financial sustainability: There is eviden e that private schools operate at low cost by keeping teacher salaries low, and their financial situation may be precarious where they are reliant on fees from low-income households. The report showed some cases of successful

voucher and subsidy programmes;

evaluations of international support to the sector are not widespread. Addressing regulatory ineffectiveness is a key challenge. Emerging approaches stress the importance of understanding the political economy of the market for LCPS, specifically how relationships of power and accountability between users, government, and private providers can produce better education outcomes for the poor.

EDUCATIONAL THEORY
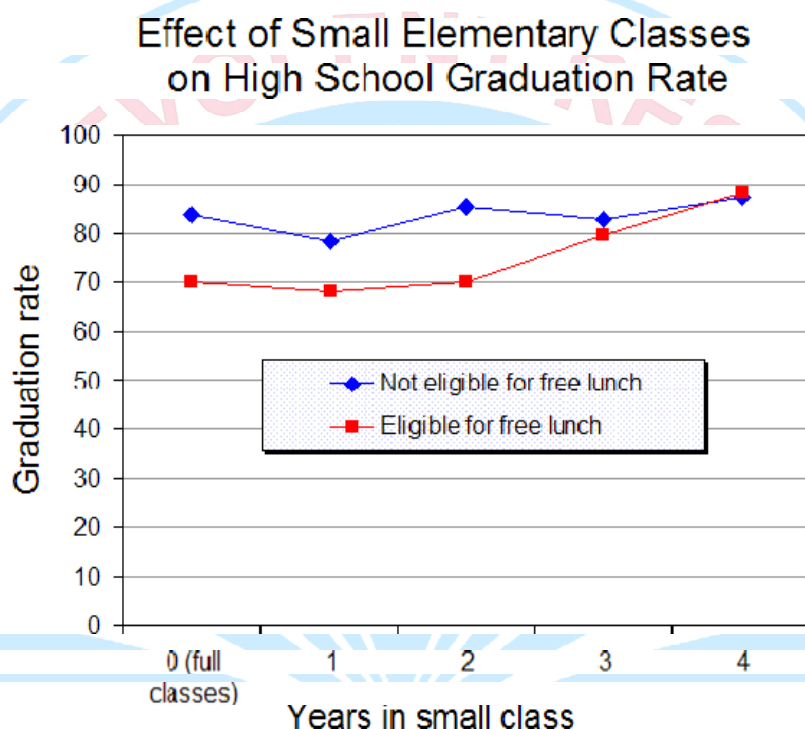
A class size experiment in the United States found that attending small classes for 3 or more years in the early grades increased high school graduation rates of students from low income families.

PURPOSE OF SCHOOLS

Individual purposes for pursuing education can vary. Understanding the goals and means of educational socialization processes may also differ according to the sociological paradigm used. The early years of schooling generally focus around developing basic interpersonal communication and literacy skills. This lays a foundation for more complex skills and subjects. Later, education usually turns toward gaining the knowledge and skills needed to create value and establish a livelihood.

People also pursue education for its own sake to satisfy innate curiosity, out of interest in a specific subject or skill, or for overall personal development.

Education is often understood as a means of overcoming handicaps, achieving greater equality, and acquiring wealth and status for all (Sargent 1994). Education is also often perceived as a place where children can develop according to their unique needs and potentials, with the purpose of developing every individual to their full potential.

Some claim that there is education inequality because children did not exceed the education of their parents. This education inequality is then associated with income inequality. Although critical thinking is a goal of education, criticism and blame are often the unintended by products of our current educational process. Students often blame their teachers and their textbooks, despite the availability of libraries and the internet. When someone tries to improve education, the educational establishment itself occasionally showers the person with criticism rather than gratitude. Better by products of an educational system would be gratitude and determination.

Developed countries have people with more resources (housing, food, transportation, water and sewage treatment, hospitals, health care, libraries, books, media, schools, the internet, education, etc.) than most of the world's population. One merely needs to see through travel or the media how many people in the undeveloped countries live to sense this. However, one can also use economic data to gain some insight into this. Yet criticism and blame are common among people in the developed countries.

Gratitude for all these resources and the determination to develop oneself would be more productive than criticism and blame because the resources are readily available and because, if you blame others, there is no need for you to do something different tomorrow or for you to change and improve. Where there is a will, there is a way. People in developed countries have the will and the way to do many things that they want to do. They sometimes need more determination and will to improve and to educate themselves with the resources that are abundantly available. They occasionally need more gratitude for the resources they have, including their teachers and their textbooks. The entire internet is also available to supplement these teachers and textbooks.

EDUCATIONAL PSYCHOLOGY

Educational psychology is the study of how humans learn in educational settings, the effectiveness of educational interventions, the psychology of teaching, and the social psychology of schools as organizations. Although the terms "educational psychology" and "school psychology" are often used interchangeably, researchers and theorists are likely to be identified as educational psychologists, whereas practitioners in schools or school-related settings are identified as school psychologists. Educational psychology is concerned with the processes of educational attainment in the general population and in sub-populations such as gifted children and those with specific disabilities.

Knowledge Day in Donetsk, Ukraine, 2013

Educational psychology can in part be understood through its relationship with other disciplines. It is informed primarily by psychology, bearing a relationship to that discipline analogous to the relationship between medicine and biology. Educational psychology in turn informs a wide range of specialties within educational studies, including instructional design, educational technology, curriculum development, organizational learning, special education and classroom management. Educational psychology both draws from and contributes to cognitive science and the learning sciences. In universities, departments of educational psychology are usually housed within faculties of education, possibly accounting for the lack of representation of educational psychology content in introductory psychology textbooks (Lucas, Blazek, & Raley, 2006).

THE INTELLIGENCE–EDUCATION RELATIONSHIP

Intelligence is an important factor in how the individual responds to education. Those who have higher intelligence tend to perform better at school and go on to higher levels of education. This effect is also observable in the opposite direction, in that education increases measurable intelligence. Studies have shown that while educational attainment is important in predicting intelligence in later life, intelligence at 53 is more closely correlated to intelligence at 8 years old than to educational attainment.

LEARNING MODALITIES

There has been much interest in learning modalities and styles over the last two decades. The most commonly employed learning modalities are:

- Visual: learning based on observation and seeing what is being learned.
- Auditory: learning based on listening to instructions/information.
- Kinesthetic: learning based on movement, e.g. hands-on work and engaging in activities.

Other commonly employed modalities include musical, interpersonal, verbal, logical, and intrapersonal.

Dunn and Dunn focused on identifying relevant stimuli that may influence learning and manipulating the school environment, at about the same time as Joseph Renzulli recommended varying teaching strategies. Howard Gardner identified a wide range of modalities in his Multiple Intelligences theories. The Myers-Briggs Type Indicator and Keirsey Temperament Sorter, based on the works of Jung, focus on understanding how people's personality affects the way they interact personally, and how this affects the way individuals respond to each other within the learning environment. The work of David Kolb and Anthony Gregorc's Type Delineator follows a similar but more simplified approach.

Some theories propose that all individuals benefit from a variety of learning modalities, while others suggest that individuals may have preferred learning styles, learning more easily through visual or kinesthetic experiences. A consequence of the latter theory is that effective teaching should present a variety of teaching methods which cover all three learning modalities so that different students have equal opportunities to learn in a way that is effective for them. Guy Claxton has questioned the extent that learning styles such as Visual, Auditory and Kinesthetic (VAK) are helpful, particularly as they can have a tendency to label children and therefore restrict learning. Recent research has argued "there is no adequate evidence base to justify incorporating learning styles assessments into general educational practice."
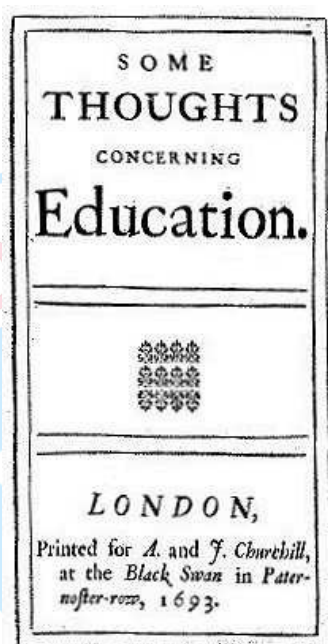
*John Locke's work Some Thoughts Concerning Education was written
in 1693 and still reflects traditional education priorities in the Western world.*

PHILOSOPHY

As an academic field, philosophy of education is "the philosophical study of education and its problems (...) its central subject matter is education, and its methods are those of philosophy". "The philosophy of education may be either the philosophy of the process of education or the philosophy of the discipline of education. That is, it may be part of the discipline in the sense of being concerned with the aims, forms, methods, or results of the process of educating or being educated; or it may be metadisciplinary in the sense of being concerned with the concepts, aims, and methods of the discipline." As such, it is both part of the field of education and a field of applied philosophy, drawing from fields of metaphysics, epistemology, axiology and the philosophical approaches (speculative, prescriptive, and/or analytic) to address questions in and about pedagogy, education policy, and curriculum, as well as the process of learning, to name a few. For example, it might study what constitutes upbringing and education, the values and norms revealed through upbringing and educational practices, the limits and legitimization of education as an academic discipline, and the relation between education theory and practice.

CURRICULUM

In formal education, a curriculum is the set of courses and their content offered at a school or university. As an idea, curriculum stems from the Latin word for *race course*, referring to the course of deeds and experiences through which children grow to become mature adults. A curriculum is prescriptive, and is based on a more general syllabus which merely specifies what topics must be understood and to what level to achieve a particular grade or standard.

An academic discipline is a branch of knowledge which is formally taught, either at the university–or via some other such method. Each discipline usually has several sub- disciplines or branches, and distinguishing lines are often both arbitrary and ambiguous. Examples of broad areas of academic

disciplines include the natural sciences, mathematics, computer science, social sciences, humanities and applied sciences.

Educational institutions may incorporate fine arts as part of K-12 grade curricula or within majors at colleges and universities as electives. The various types of fine arts are music, dance, and theatre.

INSTRUCTION

Instruction is the facilitation of another's learning. Instructors in primary and secondary institutions are often called teachers, and they direct the education of students and might draw on many subjects like reading, writing, mathematics, science and history. Instructors in post-secondary institutions might be called teachers, instructors, or professors, depending on the type of institution; and they primarily teach only their specific discipline. Studies from the United States suggest that the quality of teachers is the single most important factor affecting student performance, and that countries which score highly on international tests have multiple policies in place to ensure that the teachers they employ are as effective as possible. With the passing of NCLB in the United States (No Child Left Behind), teachers must be highly qualified. A popular way to gauge teaching performance is to use student evaluations of teachers (SETS), but these evaluations have been criticized for being counterproductive to learning and inaccurate due to student bias.

ECONOMICS OF EDUCATION

Students on their way to school, Hakha, Chin State, Myanmar

It has been argued that high rates of education are essential for countries to be able to achieve high levels of economic growth. Empirical analyses tend to support the theoretical prediction that poor countries should grow faster than rich countries because they can adopt cutting edge technologies already tried and tested by rich countries. However, technology transfer requires knowledgeable managers and engineers who are able to operate new machines or production practices borrowed from the leader in order to close the gap through imitation. Therefore, a country's ability to learn from the leader is a function of its stock of "human capital". Recent study of the determinants of aggregate economic growth have stressed the importance of fundamental economic institutions and the role of cognitive skills. At the level of the individual, there is a large literature, generally related to the work of Jacob Mincer, on how earnings are related to the schooling and other human capital. This work has motivated a large number of studies, but is also controversial. The chief controversies revolve around how to interpret the impact of schooling. Some students who have indicated a high potential for learning, by testing with a high intelligence quotient, may not achieve their full academic potential, due to financial difficulties. Economists Samuel Bowles

and Herbert Gintis argued in 1976 that there was a fundamental conflict in American schooling between the egalitarian goal of democratic participation and the inequalities implied by the continued profitability of capitalist production.

PUBLIC DOMAIN RESOURCES

Some of the most valued educational resources available are all the books, music and videos works that belongs to Public Domain and were written or recorded (on audio or video formats, most of them are preserved on internet archive website. These files can be used, copied, edited and played without restrictions by any teacher or institution and used for freely to teach about any writer, music or topic in the way that teachers choose to teach, this resources can also be modified and adapted by every teacher.

EMPLOYABILITY

Employability can be defined as "doing value creating work, getting paid for it (unless opting to do it voluntarily without pay) – and learning at the same time, enhancing the ability to shape work in the future"

EXTENDED DEFINITION

Employability is a management philosophy, developed by late Professor Sumantra Ghoshal and others, which recognises that employment and market performance stem from the initiative, creativity and competencies of all employees, and not just from the wisdom of senior management.

For employers, it involves creating a working environment that can provide opportunities for personal and professional growth, within a management environment where it is understood that talented, growing people mean talented, growing organisations.

For many employees, the new contract would involve movement towards a greater commitment to continuous learning and development, and towards an acceptance that, in a climate of constant change and uncertainty, the will to develop is the only hedge against a changing job market.

EMPLOYABILITY RELATIONSHIP

There are several options for and many aspects of employability:

TRADITIONAL EMPLOYMENT WITHOUT EMPLOYABILITY

Traditional employment does not include employability. Review of the literature regarding traditional employment and employability suggests that employability is related to work and the ability to be employed, such as:

- The ability to gain initial employment; hence the interest in ensuring that 'key competencies', careers advice and an understanding about the world of work are embedded in the education system.
- The ability to maintain employment and make 'transitions' between jobs and roles within the same organization to meet new job requirements, and
- The ability to obtain new employment if required, i.e. to be independent in the labour market by being willing and able to manage their own employment transitions between and within organisations. (Van der Heijde and Van der Heijden (2005) The continuously fulfilling, acquiring or creating of work through the optimal use of efforts)

EMPLOYMENT INCLUDING EMPLOYABILITY CONTRACT

Lee Harvey defines employability as the ability of a graduate to get a satisfying job, stating that job acquisition should not be prioritized over preparedness for employment to avoid pseudo measure of individual employability. Lee argues that employability is not a set of skills but a range of experiences and attributes developed through higher- level learning, thus employability is not a "product' but a process of learning.

Employability continues to develop because the graduate, once employed, does not stop learning (i.e. continuous learning). Thus employability by this definition is about learning, not least learning how to learn, and it is about empowering learners as critical reflective citizens definition is important for it emphasizes employability of graduates, which is similar to our context, hence, able to provide insight about how to measure graduates' employability and what are the differences between graduates and experienced individuals in labor market.

Berntson (2008) argues that employability refers to an individual's perception of his or her possibilities of getting new, equal, or better employment. Berntson's study differentiates employability into two main categories – actual employability (objective employability) and perceived employability (subjective employability).

Several employability definitions have been developed based on, or including input from business and industry. In the United States, an Employability Skills Framework was developed through a collaboration of employers, educators, human resources associations, and labour market associations. This framework states, "Employability skills are general skills that are necessary for success in the labor market at all employment levels and in all sectors". After conducting research with employers across Canada, the Conference Board of Canada released Employability Skills 2000+, which defines employability as "the skills you need to enter, stay in, and progress in the world of work". Saunders & Zuzel (2010) found that employers valued personal qualities such as dependability and enthusiasm over subject knowledge and ability to negotiate.

EMPLOYABILITY IN RELATION TO FREELANCE OR AD HOC WORK

In the future fewer will be employed and more people work as freelancers or ad hoc on projects. Robin Chase, co-founder of Zip Car, argues that in the future more work will be done as freelancers or ad hoc works. Collaborative economy and other similar platforms are reinventing capitalism, for example platforms like Freelancer.com, a new way of organizing demand and supply. Freelancer is also an example of how employability can be developed even for people who are not employed – Freelancers offers exposure of certification and in the future similar platforms will also offer continuous upgrade of competencies for the people associated.

PRO-ACTIVE DEVELOPMENT OF EMPLOYABILITY

INSEAD, and other organization institutions are experimenting with "pro-active development of employability". INSEAD works for example with future competency profiles developed by SanderMan CEO, Sandeep Sander . The idea is to translate future strategies into competencies needed – and tailor programs to cover competency gaps for the individual.

A similar approach is also used in leading corporations like Novo-Nordisk, a pharma company with 40,000 employees.

ORGANIZATIONAL ISSUES

Employability creates organizational issues, because future competency needs may require re-organization in many ways. The increasing automation and use of technology also makes it relevant to discuss not only change but also transformation is tasks for people. The issues are relevant at government level, at corporate level and for individuals, as highlighted in a recent manifest from though leaders like Steve Jurvetson

ENDING EMPLOYABILITY RELATIONSHIPS

Although the intention behind employability from employers might be to retain the best talent, it will happen that others offer opportunities that are more attractive or fit better. In these cases it is relevant to discuss how to end the employment contract including "employability" or "competence upgrade paid by the corporation". A model used with MBA students might become more common; the company pays for "employability development" but if the employees decides to leave before xx months of employment then the invested amount is due, fully or partly.

INSTITUTIONAL WORK ON EMPLOYABILITY

In the past, government had institutions to handle unemployment and employment. In the future this will be extended to include employability.

THE INSTITUTE FOR EMPLOYABILITY

Singapore, a leading South-East Asian nation, has created a "Institute for Employability" that works on competency upgrades, to reduce risk of unemployment and increase the competitiveness of the nation, the corporations and the employability for the individual.

Chapter 8
Industrialisation for Employment Generation

Industrialisation is the period of social and economic change that transforms a human group from an agrarian society into an industrial one, involving the extensive re- organisation of an economy for the purpose of manufacturing.

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.
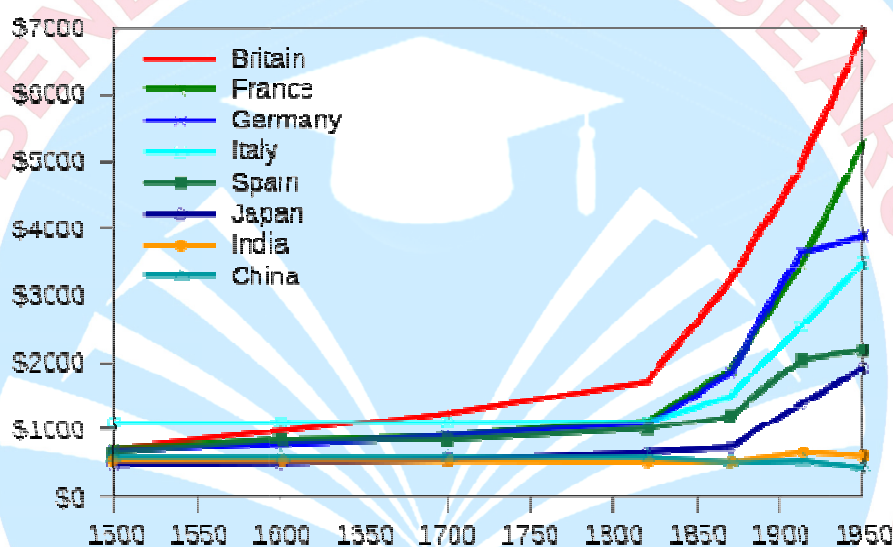
The effect of Industrialisation shown by rising income levels since 1500. The graph shows the gross domestic product (at purchasing power parity) per capita between 1500 and 1950 in 1990 International dollars for selected nations.
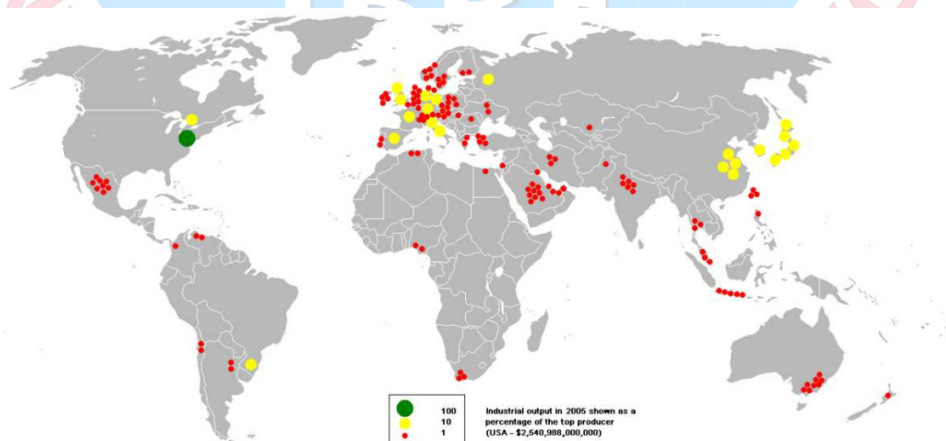
Map showing the global distribution of industrial output in 2005, based on a percentage of the top producing state, the United States

BACKGROUND

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. Coal mining, Iron factories, Textile factories replaced homes as the place of work.

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

There is considerable literature on the factors facilitating industrial modernisation and enterprise development.

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 these industries are found.

CHANGES IN 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 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

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. Some members of the Economic communities do not consider 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.
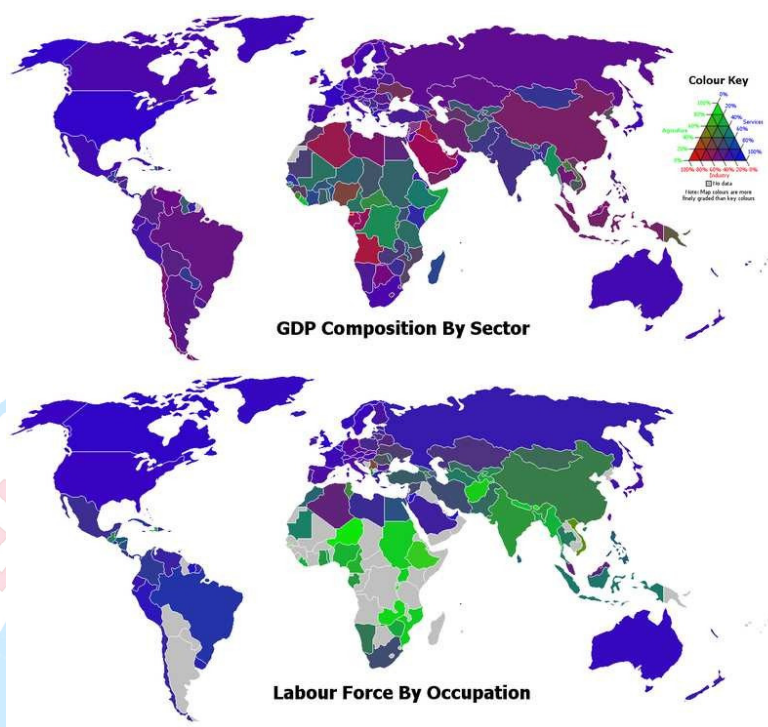
GDP composition of sector and labour force by occupation. The green, red, and blue components of the colours of the countries represent the percentages for the agriculture, industry, and services sectors, respectively.

The relationships among economic growth, employment, and poverty reduction are 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; more than 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, as in the former USSR countries' transition to market economies, and the agriculture sector is often the key sector in absorbing the resultant unemployment.

Chapter 9
Reconstruction through Poverty Reduction

Poverty Reduction is a set of measures, both economic and humanitarian, that are intended to permanently lift people out of poverty.
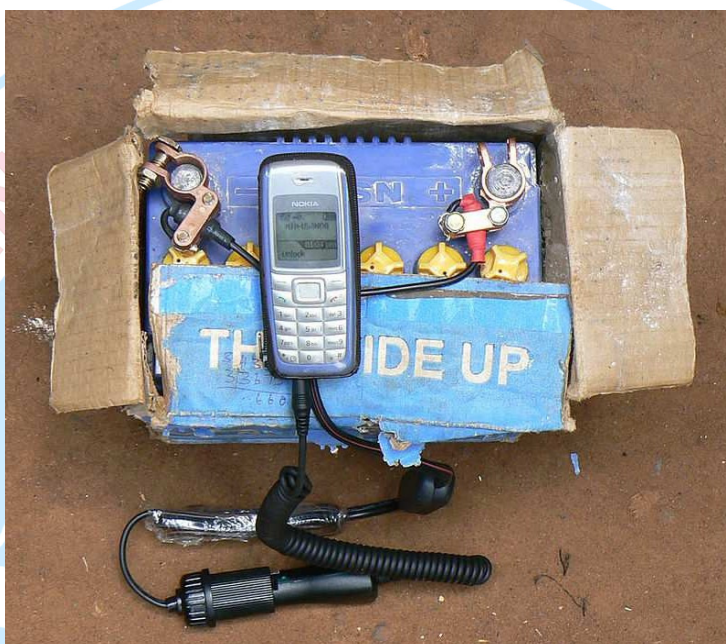
Information technology and communication technologies for development help to fight against poverty. Caption shows mobile phone charging from a car battery in Uganda
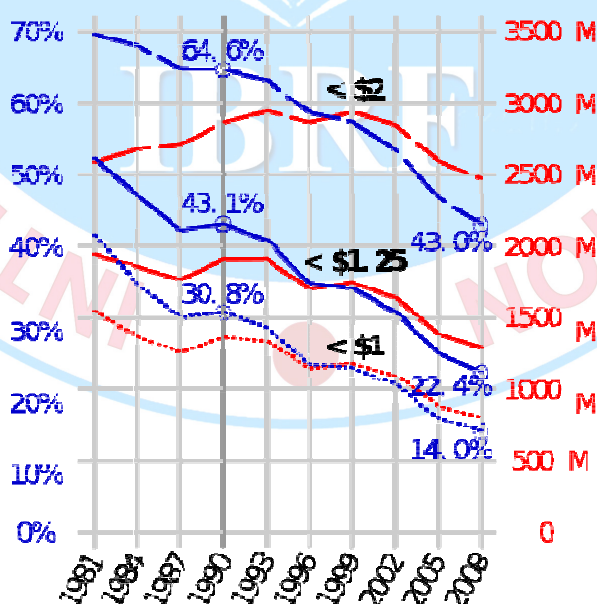
Graph of global population living on under 1, 1.25 and 2 equivalent of 2005 US dollars a day (red) and as a proportion of world population (blue) from 1981 to 1988 based on data from The World Bank

INTRODUCTION

Poverty reduction measures, like those promoted by Henry George in his economics classic Progress and Poverty, are those that raise, or are intended to raise, enabling the poor to create wealth for themselves as a means of ending poverty forever. In modern times, various economists within the georgism movement propose measures like the land value tax to enhance access by all to the natural world. Poverty occurs in both developing countries and developed countries. While poverty is much more widespread in developing countries, both types of countries undertake poverty reduction measures.

Poverty has been historically accepted in some parts of the world as inevitable as non-industrialized economies produced very little while populations grew almost as fast, making wealth scarce. Geoffrey Parker wrote that "In Antwerp and Lyon, two of the largest cities in western Europe, by 1600 three-quarters of the total population were too poor to pay taxes, and therefore likely to need relief in times of crisis." Poverty reduction, or poverty alleviation, has been largely as a result of overall economic growth. Food shortages were common before modern agricultural technology and in places that lack them today, such as nitrogen fertilizers, pesticides and irrigation methods. The dawn of industrial revolution led to high economic growth, eliminating mass poverty in what is now considered the developed world. World GDP per person quintupled during the 20th century. In 1820, 75% of humanity lived on less than a dollar a day, while in 2001, only about 20% do.

Today, continued economic development is constrained by the lack of economic freedoms. Economic liberalization requires extending property rights to the poor, especially to land. Financial services, notably savings, can be made accessible to the poor through technology, such as mobile banking. Inefficient institutions, corruption and political instability can also discourage investment. Aid and government support in health, education and infrastructure helps growth by increasing human and physical capital.

Poverty alleviation also involves improving the living conditions of people who are already poor. Aid, particularly in medical and scientific areas, is essential in providing better lives, such as the Green Revolution and the eradication of smallpox. Problems with today's development aid include the high proportion of tied aid, which mandates receiving nations to buy products, often more expensive, originating only from donor countries. Nevertheless, some believe (Peter Singer in his book *The Life You Can Save*) that small changes in the way each of us in affluent nations lives our lives could solve world poverty.

ECONOMIC LIBERALIZATION

Extending property rights protection to the poor is one of the most important poverty reduction strategies a nation can implement. Securing property rights to land, the largest asset for most societies, is vital to their economic freedom. The World Bank concludes that increasing land rights is 'the key to reducing poverty' citing that land rights greatly increase poor people's wealth, in some cases doubling it. It is estimated that state recognition of the property of the poor would give them assets worth 40 times all the foreign aid since 1945. Although approaches varied, the World Bank said the key issues were security of tenure and ensuring land transactions were low cost. In China and India, noted reductions in poverty in recent decades have occurred mostly as a result of the abandonment of collective farming in China and the cutting of government red tape in India.

New enterprises and foreign investment can be driven away by the results of inefficient institutions, corruption, the weak rule of law and excessive bureaucratic burdens. It takes two days, two bureaucratic procedures, and $280 to open a business in Canada while an entrepreneur in Bolivia

must pay $2,696 in fees, wait 82 business days, and go through 20 procedures to do the same. Such costly barriers favor big firms at the expense of small enterprises where most jobs are created. In India before economic reforms, businesses had to bribe government officials even for routine activities, which was in effect a tax on business.

However, ending government sponsorship of social programs is sometimes advocated as a free market principle with tragic consequences. For example, the World Bank presses poor nations to eliminate subsidies for fertilizer that many farmers cannot afford at market prices. The reconfiguration of public financing in former Soviet states during their transition to a market economy called for reduced spending on health and education, sharply increasing poverty.

Trade liberalization increases total surplus of trading nations. Remittances sent to poor countries, such as India, are sometimes larger than foreign direct investment and total remittances are more than double aid flows from OECD countries. Foreign investment and export industries helped fuel the economic expansion of fast growing Asian nations. However, trade rules are often unfair as they block access to richer nations' markets and ban poorer nations from supporting their industries. Processed products from poorer nations, in contrast to raw materials, get vastly higher tariffs at richer nations' ports. A University of Toronto study found the dropping of duty charges on thousands of products from African nations because of the African Growth and Opportunity Act was directly responsible for a "surprisingly large" increase in imports from Africa. Deals can sometimes be negotiated to favor the developing country such as in China, where laws compel foreign multinationals to train their future Chinese competitors in strategic industries and render themselves redundant in the long term. In Thailand, the 51 percent rule compels multinational corporations starting operations in Thailand give 51 percent control to a Thai company in a joint venture.

CAPITAL, INFRASTRUCTURE AND TECHNOLOGY

Long run economic growth per person is achieved through increases in capital (factors that increase productivity), both human and physical, and technology. Improving human capital, in the form of health, is needed for economic growth. Nations do not necessarily need wealth to gain health. For example, Sri Lanka had a maternal mortality rate of 2% in the 1930s, higher than any nation today. It reduced it to .5-.6% in the 1950s and to 0.6% today. However, it was spending less each year on maternal health because it learned what worked and what did not. Knowledge on the cost effectiveness of healthcare interventions can be elusive but educational measures to disseminate what works are available, such as the disease control priorities project.

Promoting hand washing is one of the most cost effective health intervention and can cut deaths from the major childhood diseases of diarrhea and pneumonia by half.
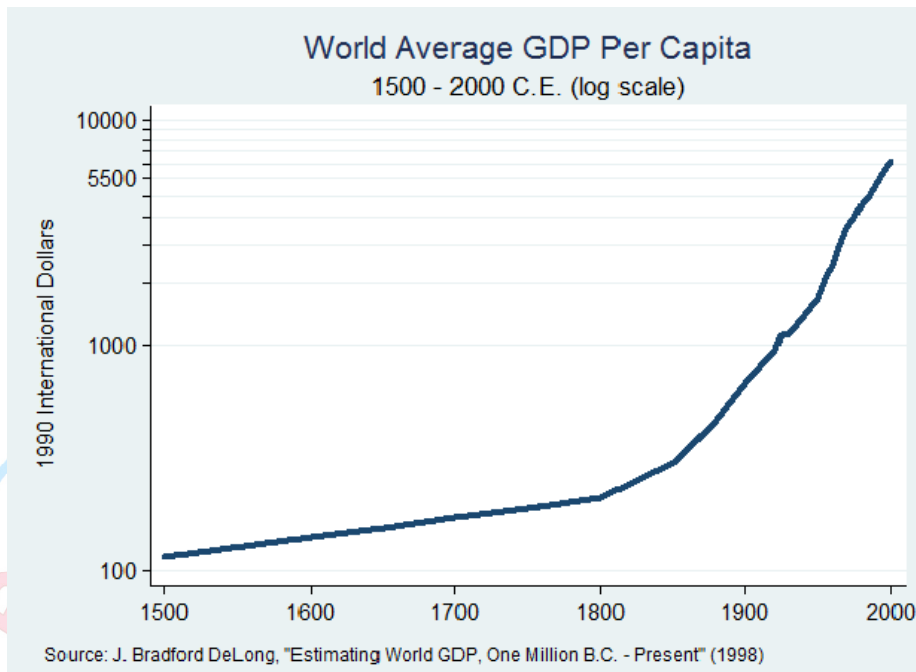
World GDP per capita (log scale)
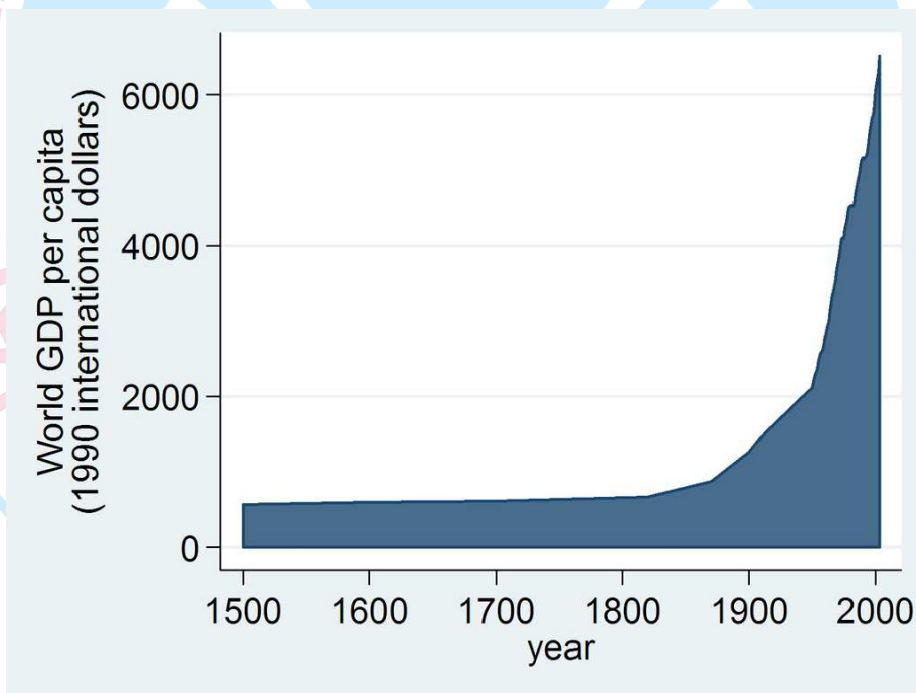
World GDP per capita

Human capital, in the form of   education, is an even more important determinant of economic growth than physical capital. Deworming children costs abo t 50 cents per child per year and reduces non-attendance from anemia, illness and malnutrition and is only a twenty-fifth as expensive to increase school attendance as by constructing schools.

UN economists argue that good infrastructure, such as roads and information networks, helps market reforms to work. China claims it is investing in railways, roads, ports and rural telephones in African countries as part of its formula for economic development. It was the technology of the steam engine that originally began the dramatic decreases in poverty levels. Cell phone technology brings the market to poor or rural sections. With necessary information, remote farmers can produce specific crops to sell to the buyers that brings the best price.

Such technology also helps bring economic freedom by making financial services accessible to the poor. Those in poverty place overwhelming importance on having a safe place to save money, much more so than receiving loans. Also, a large part of microfinance loans are spent on products that would usually be paid by a checking or savings account. Mobile banking addresses the problem of the heavy regulation and costly maintenance of saving accounts. Mobile financial services in the developing world, ahead of the developed world in this respect, could be worth $5 billion by 2012. Safaricom's M-Pesa launched one of the first systems where a network of agents of mostly shopkeepers, instead of bank branches, would take deposits in cash and translate these onto a virtual account on customers' phones. Cash transfers can be done between phones and issued back in cash with a small commission, making remittances safer.

EMPLOYMENT AND PRODUCTIVITY

Economic growth has the indirect potential to alleviate poverty, as a result of a simultaneous increases in employment opportunities and labour productivity. A study by researchers at the Overseas Development Institute (ODI) of 24 countries that experienced growth found that in 18 cases, poverty was alleviated. However, employment is no guarantee of escaping poverty, the International Labour Organisation (ILO) estimates that as many as 40% of workers are poor, not earning enough to keep their families above the $2 a day poverty line. For instance, in India most of the chronically poor are wage earners in formal employment, because their jobs are insecure and low paid and offer no chance to accumulate wealth to avoid risks. This appears to be the result of a negative relationship between employment creation and increased productivity, when a simultaneous positive increase is required to reduced poverty. According to the UNRISD, increasing labour productivity appears to have a negative impact on job creation: in the 1960s, a 1% increase in output per worker was associated with a reduction in employment growth of 0.07%, by the first decade of this century the same productivity increase implies reduce employment growth by 0.54%.

Increases in employment without increases in productivity leads to a rise in the number of "working poor", which is why some experts are now promoting the creation of "quality" and not "quantity" in labour market policies. This approach does highlight how higher productivity has helped reduce poverty in East Asia, but the negative impact is beginning to show. In Viet Nam, for example, employment growth has slowed while productivity growth has continued. Furthermore, productivity increases do not always lead to increased wages, as can be seen in the US, where the gap between productivity and wages has been rising since the 1980s. The ODI study showed that other sectors were just as important in reducing unemployment, as manufacturing. The services sector is most effective at translating productivity growth into employment growth. Agriculture provides a safety net for jobs and economic buffer when other sectors are struggling. This study suggests a more nuanced understanding of economic growth and quality of life and poverty alleviation.

HELPING FARMERS

Raising farm incomes is described as the core of the antipoverty effort as three quarters of the poor today are farmers. Estimates show that growth in the agricultural productivity of small farmers is, on average, at least twice as effective in benefiting the poorest half of a country's population as growth

generated in nonagricultural sectors. For example, a 2012 study suggested that new varieties of chickpea could benefit Ethiopian farmers in future. The study assessed the potential economic and poverty impact of 11 improved chickpea varieties, released by the national agricultural research organization of Ethiopia in collaboration with the International Crops Research Institute for the Semi-Arid Tropics, (ICRISAT). The researchers estimated that using the varieties would bring about a total benefit of US$111 million for 30 years, with consumers receiving 39% of the benefit and producers 61%. They expected the generated benefit would lift more than 0.7 million people (both producers and consumers) out of poverty. The authors concluded that further investments in the chickpea and other legume research in Ethiopia were therefore justified as a means of poverty alleviation.

Improving water management is an effective way to help reduce poverty among farmers. With better water management, they can improve productivity and potentially move beyond subsistence-level farming. During the Green Revolution of the 1960s and 1970s, for example, irrigation was a key factor in unlocking Asia's agricultural potential and reducing poverty. Between 1961 and 2002, the irrigated area almost doubled, as governments sought to achieve food security, improve public welfare and generate economic growth. In South Asia, cereal production rose by 137% from 1970 to 2007. This was achieved with only 3% more land.

The International Water Management Institute in Colombo, Sri Lanka aims to improve the management of land and water resources for food, livelihoods and the environment. One project its scientists worked on demonstrates the impact that improving water management in agriculture can have. The study, funded by the Japan Bank for International Cooperation, initially upgraded and irrigated the irrigation system on the Walawe Left Bank, Sri Lanka, in 1997. In 2005, irrigation was extended to a further area. An analysis of the whole area was carried out in 2007 and 2008. This study found that access to irrigation provided families with opportunities to diversify their livelihood activities and potentially increase their incomes. For example, people with land could reliably grow rice or vegetables instead of working as labourers or relying on rainfall to water their crops. Those without land could benefit by working within new inland fisheries. Within the project's control area, 57% of households were below the poverty line in 2002 compared with 43% in 2007.

BUILDING OPPORTUNITIES FOR SELF-SUFFICIENCY

Making employment opportunities available is just as important as increasing income and access to basic needs. Poverty activist Paul Polak has based his career around doing both at once, creating companies that employ the poor while creating "radically" affordable goods. In his book *Out of Poverty* he argues that traditional poverty eradication strategies have been misguided and fail to address underlying problems. He lists, "Three Great Poverty Eradication Myths": that we can donate people out of poverty, that national economic growth will end poverty, and that Big Business, operating as it does now, will end poverty. Economic models which lead to national growth and more big business will not necessarily lead to more opportunities for self- sufficiency. However, businesses designed with a social goal in mind, such as micro finance banks, may be able to make a difference.

GROWTH vs. STATE INTERVENTION: COMPARATIVE PERSPECTIVE IN CHINA, INDIA, BRAZIL

A 2012 World Bank research article, "A Comparative Perspective on Poverty Reduction in Brazil, China, and India," looked at the three nations' strategies and their relative challenges and successes. During their reform periods, all three have reduced their poverty rates, but through a different mix of approaches. The report used a common poverty line of $1.29 per person, per day, at purchasing parity power for consumption in 2008. Using that metric and evaluating the period between 1981

and 2005, the poverty rate in China dropped from 84% to 18%; India from 80% to 42%; and Brazil from 17% to 8%. The report sketches an overall scorecard of the countries on the two basic dimensions of pro-poor growth and pro-poor policy intervention: "China clearly scores well on the pro-poor growth side of the card, but neither Brazil nor India do; in Brazil's case for lack of growth and in India's case for lack of poverty-reducing growth. Brazil scores well on the social policies side, but China and India do not; in China's case progress has been slow in implementing new social policies more relevant to the new market economy (despite historical advantages in this area, inherited from the past regime) and in India's case the bigger problems are the extent of capture of the many existing policies by non-poor groups and the weak capabilities of the state for delivering better basic public services."

AID

WELFARE

Aid in its simplest form is a basic income grant, a form of social security periodically providing citizens with money. In pilot projects in Namibia, where such a program pays just $13 a month, people were able to pay tuition fees, raising the proportion of children going to school by 92%, child malnutrition rates fell from 42% to 10% and economic activity grew 10%. Aid could also be rewarded based on doing certain requirements. Conditional Cash Transfers, widely credited as a successful anti-poverty program, is based on actions such as enrolling children in school or receiving vaccinations. In Mexico, for example, the country with the largest such program, dropout rates of 16- to 19-year-olds in rural area dropped by 20% and children gained half an inch in height. Initial fears that the program would encourage families to stay at home rather than work to collect benefits have proven to be unfounded. Instead, there is less excuse for neglectful behavior as, for example, children are prevented from begging on the streets instead of going to school because it could result in suspension from the program.

Welfare states have an effect on poverty reduction. Currently modern, expansive welfare states that ensure economic opportunity, independence and security in a near universal manner are still the exclusive domain of the developed nations. commonly constituting at least 20% of GDP, with the largest Scandinavian welfare states constituting over 40% of GDP. These modern welfare states, which largely arose in the late 19th and early 20th centuries, seeing their greatest expansion in the mid 20th century, and have proven themselves highly effective in reducing relative as well as absolute poverty in all analyzed high-income OECD countries.

Philosopher Thomas Pogge is a supporter of gathering funds for the poor by using a sort of Global Resources Dividend.

DEVELOPMENT AID

A major proportion of aid from donor nations is 'tied', mandating that a receiving nation buy products originating only from the donor country. This can be harmful economically. For example, Eritrea is forced to spend aid money on foreign goods and services to build a network of railways even though it is cheaper to use local expertise and resources. Money from the United States to fight AIDS requires it be spent on U.S brand name drugs that can cost up to $15,000 a year compared to $350 a year for generics from other countries. Only Norway, Denmark, Netherlands and Britain have stopped tying their aid.

Some people disagree with aid when looking at where the development aid money from NGO's and other funding is going. Funding tends to be used in a selective manner where the highest ranked health problem is the only thing treated, rather than funding basic health care development. This can

occur due to the a foundation's underlying political aspects to their development plan, where the politics outweigh the science of disease. The diseases then treated are ranked by their prevalence, morbidity, risk of mortality, and the feasibility of control. Through this ranking system, the disease that cause the most mortality and are most easily treated are given the funding. The argument occurs because once these people are treated, they are sent back to the conditions that led to the disease in the first place. By doing this, money and resources from aid can be wasted when people are re-infected. This was seen in the Rockefeller Foundation's Hookworm campaign in Mexico in the 1920s, where people were treated for hookworm and then contracted the disease again once back in the conditions of which they came from. To prevent this, money could be spent on teaching citizens of the developing countries health education, basic sanitation, and providing adequate access to prevention methods and medical infrastructure. Not only would NGO money be better spent, but it would be more sustainable. These arguments suggest that the NGO development aid should be used for prevention and determining root causes rather acting upon political endeavours and treating for the sake of saying they helped.

Some think tanks and NGOs have argued that Western monetary aid often only serves to increase poverty and social inequality, either because it is conditioned with the implementation of harmful economic policies in the recipient countries, or because it's tied with the importing of products from the donor country over cheaper alternatives. Sometimes foreign aid is seen to be serving the interests of the donor more than the recipient, and critics also argue that some of the foreign aid is stolen by corrupt governments and officials, and that higher aid levels erode the quality of governance. Policy becomes much more oriented toward what will get more aid money than it does towards meeting the needs of the people. Problems with the aid system and not aid itself are that the aid is excessively directed towards the salaries of consultants from donor countries, the aid is not spread properly, neglecting vital, less publicized area such as agriculture, and the aid is not properly coordinated among donors, leading to a plethora of disconnected projects rather than unified strategies.

Supporters of aid argue that these problems may be solved with better auditing of how the aid is used. Immunization campaigns for children, such as against polio, diphtheria and measles have saved millions of lives. Aid from non-governmental organizations may be more effective than governmental aid; this may be because it is better at reaching the poor and better controlled at the grassroots level. As a point of comparison, the annual world military spending is over $1 trillion.

DEBT RELIEF

One of the proposed ways to help poor countries that emerged during the 1980s has been debt relief. Given that many less developed nations have gotten themselves into extensive debt to banks and governments from the rich nations, and given that the interest payments on these debts are often more than a country can generate per year in profits from exports, cancelling part or all of these debts may allow poor nations "to get out of the hole". If poor countries do not have to spend so much on debt payments, they can use the money instead for priorities which help reduce poverty such as basic health-care and education. Many nations began offering services, such as free health care even while overwhelming the health care infrastructure, because of savings that resulted from the rounds of debt relief in 2005.

THE ROLE OF EDUCATION AND SKILLBUILDING AS PRECURSORS TO ECONOMIC DEVELOPMENT

"Working together to end poverty one nail at a time," T-shirt, 50th Anniversary of the March on Washington for Jobs and Freedom

Universal public education has some role in preparing youth for basic academic skills and perhaps many trade skills, as well. Apprenticeships clearly build needed trade skills. If modest amounts of cash and land can be combined with a modicum of agricultural skills in a temperate climate, subsistence can give way toward modest societal wealth. As has been mentioned, education for women will allow for reduced family size—an important poverty reduction event in its own right. While all components mentioned above are necessary, the portion of education pertaining to the variety of skills needed to build and maintain the infrastructure of a developing (moving out of poverty) society: building trades; plumbing; electrician; well-drilling; farm and transport mechanical skills (and others) are clearly needed in large numbers of individuals, if the society is to move out of poverty or subsistence. Yet, many well- developed western economies are moving strongly away from the essential apprenticeships and skill training which affords a clear vocational path out of modern urban poverty.

MICROLOANS

One of the most popular of the new technical tools for economic development and poverty reduction are microloans made famous in 1976 by the Grameen Bank in Bangladesh. The idea is to loan small amounts of money to farmers or villages so these people can obtain the things they need to increase their economic rewards. A small pump costing only $50 could make a very big difference in a village without the means of irrigation. A specific example is the Thai government's People's Bank which is making loans of $100 to $300 to help farmers buy equipment or seeds, help street vendors acquire an inventory to sell, or help others set up small shops. The International Fund for Agricultural Development (IFAD) Vietnam country programme supports operations in 11 poor provinces. Between 2002 and 2010 around 1,000 saving and credit groups (SCGs) were formed, with over 17,000 members; these SCGs increased their access to microcredit for taking up small-scale farm activities.

EMPOWERING WOMEN

The empowerment of women has relatively recently become a significant area of discussion with respect to development and economics; however it is often regarded as a topic that only addresses and primarily deals with gender inequality. Because women and men experience poverty differently, they hold dissimilar poverty reduction priorities and are affected differently by development interventions and poverty reduction strategies. In response to the socialized phenomenon known as the feminization of poverty, policies aimed to reduce poverty have begun to address poor women separately from poor men. In addition to engendering poverty and poverty interventions, a correlation between greater gender equality and greater poverty reduction and economic growth has been illustrated by research through the World Bank, suggesting that promoting gender equality through empowerment of women is a qualitatively significant poverty reduction strategy.

GENDER EQUALITY

Addressing gender equality and empowering women are necessary steps in overcoming poverty and furthering development as supported by the human development and capabilities approach and the Millennium Development Goals. Disparities in the areas of education, mortality rates, health and other social and economic indicators impose large costs on well-being and health of the poor, which diminishes productivity and the potential to reduce poverty. The limited opportunities of women in most societies restrict their aptitude to improve economic conditions and access services to enhance their well-being.

MAINSTREAMING GENDER

Gender mainstreaming, the concept of placing gender issues into the mainstream of society, was established by the United Nations Fourth World Conference on Women as a global strategy for promoting gender equality; the UN conference emphasized the necessity to ensure that gender equality is a primary goal in all areas of social and economic development, which includes the discussion of poverty and its reduction. Correspondingly, the World Bank also created objectives to address poverty with respect to the different effects on women. One important goal was the revision of laws and administrative practices to ensure women's equal rights and access to economic resources. Mainstreaming strengthens women's active involvement in poverty alleviation by linking women's capabilities and contributions with macro-economic issues. The underlying purpose of both the UN and World Bank policies speaks to the use of discussion of gender issues in the promotion of gender equality and reduction of poverty.

STRATEGIES TO EMPOWER WOMEN

Several platforms have been adopted and reiterated across many organizations in support of the empowerment of women with the specific aim of reducing poverty. Encouraging more economic and political participation by women increases financial independence from and social investment in the government, both of which are critical to pulling society out of poverty.

ECONOMIC PARTICIPATION

Women's economic empowerment, or ensuring that women and men have equal opportunities to generate and manage income, is an important step to enhancing their development within the household and in society. Additionally, women play an important economic role in addressing poverty experienced by children. By increasing female participation in the labor force, women are able to contribute more effectively to economic growth and income distribution since having a source of income elevates their financial and social status. However, women's entry into the paid labor force does not necessarily equate to reduction of poverty; the creation of decent employment opportunities and movement of women from the informal work sector to the formal labor market are key to poverty reduction. Other ways to encourage female participation in the workforce to promote decline of poverty include providing childcare services, increasing educational quality and opportunities, and furthering entrepreneurship for women. Protection of property rights is a key element in economically empowering women and fostering economic growth overall for both genders. With legitimate claims to land, women gain bargaining power, which can be applied to their lives outside of and within the household. The ability and opportunity for women to lawfully own land also decreases the asset gap that exists between women and men, which promotes gender equality.

POLITICAL PARTICIPATION

Political participation is supported by organizations such as IFAD as one pillar of gender equality and women's empowerment. Sustainable economic growth requires poor people to have influence on the decisions that affect their lives; specifically strengthening women's voices in the political process builds social independence and greater consideration of gender issues in policy. In order to promote women's political empowerment, the United Nations Development Programme

advocated for several efforts: increase women in public office; strengthen advocate ability of women's organizations; ensure fair legal protection; and provide equivalent health and education. Fair political representation and participation enable women to lobby for more female-specific poverty reduction policies and programs.

GOOD INSTITUTIONS

Efficient institutions that are not corrupt and obey the rule of law make and enforce good laws that provide security to property and businesses. Efficient and fair governments would work to invest in the long-term interests of the nation rather than plunder resources through corruption. Researchers at UC Berkeley developed what they called a "Weberianness scale" which measures aspects of bureaucracies and governments which Max Weber described as most important for rational-legal and efficient government over 100 years ago. Comparative research has found that the scale is correlated with higher rates of economic development. With their related concept of good governance World Bank researchers have found much the same: Data from 150 nations have shown several measures of good governance (such as accountability, effectiveness, rule of law, low corruption) to be related to higher rates of economic development.

Funds from aid and natural resources are often diverted into private hands and then sent to banks overseas as a result of graft. If Western banks rejected stolen money, says a report by Global Witness, ordinary people would benefit "in a way that aid flows will never achieve". The report asked for more regulation of banks as they have proved capable of stanching the flow of funds linked to terrorism, money-laundering or tax evasion.

Some, like Thomas Pogge, call for a global organization that can manage some form of Global Resources Dividend, which could evolve in complexity with time.

Examples of good governance leading to economic development and poverty reduction include Thailand, Taiwan, Malaysia, South Korea, and Vietnam, which tend to have a strong government, called a *hard state* or *development state*. These "hard states" have the will and authority to create and maintain policies that lead to long-term development that helps all their citizens, not just the wealthy. Multinational corporations are regulated so that they follow reasonable standards for pay and labor conditions, pay reasonable taxes to help develop the country, and keep some of the profits in the country, reinvesting them to provide further development.

The United Nations Development Program published a report in April 2000 which focused on good governance in poor countries as a key to economic development and overcoming the selfish interests of wealthy elites often behind state actions in developing nations. The report concludes that "Without good governance, reliance on trickle-down economic development and a host of other strategies will not work." Despite the promise of such research several questions remain, such as where good governance comes from and how it can be achieved. The comparative analysis of one sociologist suggests that broad historical forces have shaped the likelihood of good governance. Ancient civilizations with more developed government organization before colonialism, as well as elite responsibility, have helped create strong states with the means and efficiency to carry out development policies today. On the other hand, strong states are not always the form of political organization most conducive to economic development. Other historical factors, especially the experiences of colonialism for each country, have intervened to make a strong state and/or good governance less likely for some countries, especially in Africa. Another important factor that has been found to affect the quality of institutions and governance was the pattern of colonization (how it took place) and even the identity of colonizing power. International agencies may be able to promote good governance through various policies of intervention in developing nations as indicated in a few

African countries, but comparative analysis suggests it may be much more difficult to achieve in most poor nations around the world.

OTHER APPROACHES

A poor woman in India

Another approach that has been proposed for alleviating poverty is Fair Trade which advocates the payment of an above market price as well as social and environmental standards in areas related to the production of goods. The efficacy of this approach to poverty reduction is controversial.

Community and monetary economist Thomas H. Greco, Jr. has argued that the mainstream global economy with its debt-based currency has built-in structural incentives that create poverty through keeping money scarce. Greco points to the success of modern barter clubs and historical local currencies such as the Wörgl Experiment at revitalizing stagnant local economies, and calls for the creation of community currency as a means to reduce or eliminate poverty.

The Toronto Dollar is an example of a local currency oriented towards reducing poverty. Toronto Dollars are sold and redeemed in such a way that raise funds which are then given as grants to local charities, primarily ones oriented towards reducing poverty. Toronto Dollars also provide a means to create an incentive for welfare recipients to work: Toronto dollars can be given as gifts to welfare recipients who perform volunteer work for charitable and non-profit organizations, and these gifts do not affect welfare benefits.

Some have argued for radical economic change in the system. There are several fundamental proposals for restructuring existing economic relations, and many of their supporters argue that their ideas would reduce or even eliminate poverty entirely if they were implemented. Such proposals have been put forward by both left-wing and right-wing groups: socialism, communism, anarchism, libertarianism, binary economics and participatory economics, among others.

Inequality can be reduced by progressive tax.

In law, there has been a move to establish the absence of poverty as a human right.

The IMF and member countries have produced Poverty Reduction Strategy papers or PRSPs.

In his book "The End of Poverty", a prominent economist named Jeffrey Sachs laid out a plan to eradicate global poverty by the year 2025. Following his recommendations, international organizations such as the Global Solidarity Network are working to help eradicate poverty worldwide with intervention in the areas of housing, food, education, basic health, agricultural inputs, safe drinking water, transportation and communications.

The Poor People's Economic Human Rights Campaign is an organization in the United States working to secure freedom from poverty for all by organizing the poor themselves. The Campaign believes that a human rights framework, based on the value of inherent dignity and worth of all persons, offers the best means by which to organize for a political solution to poverty. Makes camps of anti-poverty.

Also one approach to reduce poverty was with Norplant, a form of birth control, which was approved in the United States on December 10, 1990. Norplant prevents pregnancy for up to five years by gradually releasing a low dose of the hormone into the bloodstream. In an article in the Philadelphia Inquirer entitled "Poverty and Norplant: Can Contraception Reduce the Underclass?", deputy editorial-page editor Donald Kimelman proposed Norplant as a solution to inner-city poverty, arguing that "the main reason black children are living in poverty is that people having the most children are the ones least capable of supporting them. Kimelman claimed in his article "it's very tough to undo the damage of being born into a dysfunctional family. So why not make a major effort to reduce the number of children, of any race, born into such circumstances?" According to Dorothy Roberts book "Killing the Black Body: Race, Reproduction, and the Meaning of Liberty", within two years of Norplant being approved thirteen state legislatures had proposed some twenty measures to implant poor women with Norplant and a number of these bills would pressure women on welfare to use the device either by requiring implantation as a condition of receiving benefits or by offering them a financial bonus.

Every State made Norplant available to women for free through Medicaid or other forms of public assistance and to teenage girls through school programs that presented Norplant as the most reasonable option. Efforts were also made to provide Norplant to women without Medicaid. As Roberts stated, "California governor Pete Wilson allocated an extra $5 million to reimburse state-funded clinics for Norplant going to women without Medicaid or Medi-Cal coverage."

CLIMATE CHANGE ADAPTATION

The increase in extreme weather events, linked to climate change, and resulting disasters is expected to continue. Disasters are a major cause of impoverishment and can reverse progress towards poverty reduction.

It is predicted that by 2030, 325 million (plus) extremely poor people will be living in the 49 most hazard prone countries. Most of these are located in South Asia and Sub- Saharan Africa.

A researcher at a leading global think-tank, the Overseas Development Institute, suggests that far more effort should be done to better coordinate and integrate poverty reduction strategies with climate change adaptation. The two issues are argued to be currently only dealt with in parallel as most poverty reduction strategy papers ignore climate change adaptation altogether, while National Adaptation Programmes of Action (NAPAs) likewise do not deal directly with poverty

reduction. Adaptation- poverty linkages were found to be strongest in NAPAs from sub-Saharan Africa LDCs.

BICYCLES

Man on bike with chickens, Ouagadougou, Burkina Faso

Experiments done in Africa (Uganda and Tanzania) and Sri Lanka on hundreds of households have shown that a bicycle can increase the income of a poor family by as much as 35%. Transport, if analyzed for the cost-benefit analysis for rural poverty alleviation, has given one of the best returns in this regard. For example, road investments in India were a staggering 3–10 times more effective than almost all other investments and subsidies in rural economy in the decade of the 1990s. What a road does at a macro level to increase transport, the bicycle supports at the micro level. The bicycle, in that sense, can be one of the best means to eradicate poverty in poor nations.

MILLENNIUM DEVELOPMENT GOALS (MDGs)

Eradication of extreme poverty and hunger by 2015 is a Millennium Development Goal. In addition to broader approaches, the Sachs Report (for the UN Millennium Project) proposes a series of "quick wins", approaches identified by development experts which would cost relatively little but could have a major constructive effect on world poverty. The quick wins are:

- Access to information on sexual and reproductive health.
- Action against domestic violence.
- Appointing government scientific advisors in every country.

- Deworming school children in affected areas.
- Drugs for AIDS, tuberculosis, and malaria.
- Eliminating school fees.
- Ending user fees for basic health care in developing countries.
- Free school meals for schoolchildren.
- Legislation for women's rights, including rights to property.
- Planting trees.
- Providing soil nutrients to farmers in sub-Saharan Africa.
- Providing mosquito nets.
- Access to electricity, water and sanitation.
- Supporting breast-feeding.
- Training programs for community health in rural areas.
- Upgrading slums, and providing land for public housing.

GLOBAL INITIATIVES TO END HUNGER AND UNDERNUTRITION

An important part of the fight against poverty are efforts to end hunger and achieve Food security (see poverty). In April 2012, the Food Assistance Convention was signed, the world's first legally binding international agreement on food aid. The May 2012 Copenhagen Consensus recommended that efforts to combat hunger and malnutrition should be the first priority for politicians and private sector philanthropists looking to maximize the effectiveness of aid spending. They put this ahead of other priorities, like the fight against malaria and AIDS.

The main global policy to reduce hunger and poverty are the recently approved Sustainable Development Goals. In particular Goal 2: Zero Hunger sets globally agreed targets to end hunger, achieve food security and improved nutrition and promote sustainable agriculture.

In 2013 Caritas International started a Caritas-wide initiative aimed at ending systemic hunger by 2025. The One human family, food for all campaign focuses on awareness raising, improving the impact of Caritas programs and advocating the implementation of the right to food.

The partnership Compact2025, led by IFPRI with the involvement of UN organisations, NGOs and private foundations develops and disseminates evidence-based advice to politicians and other decision-makers aimed at ending hunger and undernutrition in the coming 10 years, by 2025.

The EndingHunger campaign is an online communication campaign aimed at raising awareness of the hunger problem. It has many worked through viral videos depicting celebrities voicing their anger about the large number of hungry people in the world.

Another initiative focused on improving the hunger situation by improving nutrition is the Scaling up Nutrition movement (SUN). Started in 2010 this movement of people from governments, civil society, the United Nations, donors, businesses and researchers, publishes a yearly progress report on the changes in their 55 partner countries.

FIELDS OF STUDY THAT DEAL WITH POVERTY REDUCTION

- Development economics explains economic growth of developing countries
- Macroeconomics deals with entire economies while Microeconomics with individual players in the economy

Chapter 10
Vocational Education for Skill Development

Vocational Education is education that prepares people to work in a trade, in a craft, as a technician, or in support roles in professions such as engineering, accountancy, nursing, medicine, architecture, or law. Craft vocations are usually based on manual or practical activities and are traditionally non-academic but related to a specific trade or occupation. Vocational education is sometimes referred to as *career education* or *technical education*.

Vocational education can take place at the secondary, post-secondary, further education, and higher education level; and can interact with the apprenticeship system. At the post-secondary level, vocational education is often provided by a highly specialized institute of technology/polytechnic, or by a university, or by a local community college.

Until recently, almost all vocational education took place in the classroom, or on the job site, with students learning trade skills and trade theory from accredited professors or established professionals. However, online vocational education has grown in popularity, and made it easier than ever for students to learn various trade skills and soft skills from established professionals in the industry.

INTERNATIONALLY AUSTRALIA

In Australia vocational education and training is mostly post-secondary and provided through the vocational education and training (VET) system by registered training organisations. However some senior schools do offer school-based apprenticeships and traineeships for students in years 10, 11 and 12. There were 24 Technical Colleges in Australia but now only 4 independent Trade Colleges remain with two in Queensland; one in Brisbane (Australian Trade College) and one on the Gold Coast (Australian Industry Trade College) and one in Adelaide and Perth. This system encompasses both public, TAFE, and private providers in a national training framework consisting of the Australian Quality Training Framework, Australian Qualifications Framework and Industry Training Packages which define the assessment standards for the different vocational qualifications.

Australia's apprenticeship system includes both traditional apprenticeships in traditional trades and "traineeships" in other more service-oriented occupations. Both involve a legal contract between the employer and the apprentice and provide a combination of school-based and workplace training. Apprenticeships typically last three to four years, traineeships only one to two years. Apprentices and trainees receive a wage which increases as they progress.

Since the states and territories are responsible for most public delivery and all regulation of providers, a central concept of the system is "national recognition" whereby the assessments and awards of any one registered training organisation must be recognised by all others and the decisions of any state or territory training authority must be recognised by the other states and territories. This allows national portability of qualifications and units of competency.

A crucial feature of the training package (which accounts for about 60% of publicly funded training and almost all apprenticeship training) is that the content of the vocational qualifications is theoretically defined by industry and not by government or training providers. A Training Package is "owned" by one of 11 Industry Skills Councils which are responsible for developing and reviewing the qualifications.

The National Centre for Vocational Education Research or NCVER is a not-for-profit company owned by the federal, state and territory ministers responsible for training. It is responsible for collecting, managing, analysing, evaluating and communicating research and statistics about vocational education and training (VET).

The boundaries between Vocational education and tertiary education are becoming more blurred. A number of vocational training providers such as Melbourne Polytechnic, BHI and WAI are now offering specialised bachelor's degrees in specific areas not being adequately provided by Universities.

Such Applied Courses include in the areas of Equine studies, Winemaking and viticulture, aquaculture, Information Technology, Music, Illustration, Culinary Management and many more.

Vocational education in Australia is sometimes mistaken for skills assessment or recognised prior learning (RPL). It is not uncommon for universities to offer RPL for some of their vocational education, however it is now the same. Get Qualified Australia have been offering RPL for several years now, however they do not offer vocational education.

COMMONWEALTH OF INDEPENDENT STATES

The largest and the most unified system of vocational education was created in the Soviet Union with the Professional`no-tehnicheskoye uchilische and Tehnikum. But it became less effective with the transition of the economies of post-Soviet countries to a market economy.

EUROPEAN UNION

Education and training is the responsibility of Member States, but the single European labour market makes some cooperation on education imperative, including on vocational education and training. The 'Copenhagen process', based on the open method of cooperation between Member States, was launched in 2002 in order to help make vocational education and training better and more attractive to learners throughout Europe. The process is based on mutually agreed priorities that are reviewed periodically. Much of the activity is monitored by Cedefop, the European Centre for the Development of Vocational Training.

FINLAND

In Finland, vocational education belongs to secondary education. After the nine-year comprehensive school, almost all students choose to go to either a *lukio* (high school), which is an institution preparing students for tertiary education, or to a vocational school. Both forms of secondary education last three years, and give a formal qualification to enter university or *ammattikorkeakoulu*, i.e. Finnish polytechnics. In certain fields (e.g. the police school, air traffic control personnel training), the entrance requirements of vocational schools include completion of the *lukio*, thus causing the students to complete their secondary education twice.

The education in vocational school is free, and the students from low-income families are eligible for a state student grant. The curriculum is primarily vocational, and the academic part of the curriculum is adapted to the needs of a given course. The vocational schools are mostly maintained by municipalities.

After completing secondary education, one can enter higher vocational schools (*ammattikorkeakoulu*, or *AMK*) or universities.

It is also possible for a student to choose both lukio and vocational schooling. The education in such cases last usually from 3 to 4 years.

GERMAN-LANGUAGE AREAS

Vocational education is an important part of the education systems in Austria, Germany, Liechtenstein and Switzerland (including the French and the Italian speaking parts of the country) and one element of the German model.

For example, in Germany a law (the *Berufsausbildungsgesetz*) was passed in 1969 which regulated and unified the vocational training system and codified the shared responsibility of the state, the unions, associations and chambers of trade and industry. The system is very popular in modern Germany: in 2001, two thirds of young people aged under 22 began an apprenticeship, and 78% of them completed it, meaning that approximately 51% of all young people under 22 have completed an apprenticeship. One in three companies offered apprenticeships in 2003; in 2004 the government signed a pledge with industrial unions that all companies except very small ones must take on apprentices.

The vocational education systems in the other German speaking countries are very similar to the German system and a vocational qualification from one country is generally also recognized in the other states within this area.

HONG KONG

In Hong Kong, vocational education is usually for post-secondary 6 students. The Hong Kong Institute of Vocational Education (IVE) provides training in nine different vocational fields, namely: Applied Science; Business Administration; Child Education and Community Services; Construction; Design; Printing, Textiles and Clothing; Hotel, Service and Tourism Studies; Information Technology; Electrical and Electronic Engineering; and Mechanical, Manufacturing and Industrial Engineering.

HUNGARY

Normally at the end of elementary school (at age 14) students are directed to one of three types of upper secondary education: one academic track (gymnasium) and two vocational tracks. Vocational secondary schools (*szakközépiskola*) provide four years of general education and also prepare students for the maturata. These schools combine general education with some specific subjects, referred to as pre-vocational education and career orientation. At that point many students enrol in a post-secondary VET programme often at the same institution, to obtain a vocational qualification, although they may also seek entry to tertiary education.

Vocational training schools (*szakiskola*) initially provide two years of general education, combined with some pre-vocational education and career orientation, they then choose an occupation, and then receive two or three years of vocational education and training focusing on that occupation – such as bricklayer. Students do not obtain the maturata but a vocational qualification at the end of a successfully completed programme. Demand for vocational training schools, both from the labour market and among students, has declined while it has increased for upper secondary schools delivering the maturata.

INDIA

Vocational training historically has been a subject handled by the Ministry of Labour, other central ministries and various state-level organizations. To harmonize the variations and multiplicity in terms of standards and costs, the National Skills Qualification Framework was launched in December 2013.

The National Skills Qualifications Framework (NSQF) is a competency-based framework that organizes all qualifications according to a series of levels of knowledge, skills and aptitude. These levels, graded from one to ten, are defined in terms of learning outcomes which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. NSQF in India was notified on 27 December 2013. All other frameworks, including the NVEQF (National Vocational Educational Qualification Framework) released by the Ministry of HRD, stand superseded by the NSQF.

In November 2014 the new Government in India formed the Ministry of Skill Development & Entrepreneurship. Articulating the need for such a Ministry, the Prime Minister said, , "A separate Ministry, which will look after promoting entrepreneurship and skill development, would be created. Even developed countries have accorded priority to promoting skilled manpower".

As a continuation of its efforts to harmonize and consolidate skill development activitiesacrossthe country,theGovernmentlaunchedthe1stSkillIndiaDevelopment Mission (NSDM) on 15 July 2015. AlsolaunchedonthedaywastheNationalPolicyfor Skill Development &Entrepreneurship.

Today all skill development efforts through the Government (Directorate General of Training) and throughthePublicPrivatePartnershiparm(NationalSkillDevelopmentCorporation)arecarriedout undertheMinistry,throughthe SkillIndiaMission.

The Ministry works with various central ministries and departments and the State governmentin implementingtheNSQFacrossallGovernmentfundedprojects,based on a five-year implementation scheduleforcompleteconvergence.

The involvement of the private sector in various aspects of skill development has enhanced access, quality, and innovative financing models leading to sustainable skill development organizationsontheground.Theshort-termskilldevelopmentprograms (largely offered by private organizations) combined with the long-term programs (offeredbytheIndianTechnicalInstitutes, i.e., ITIs) complement each other under the larger framework. Credit equivalency, transnational standards,qualityassuranceand standards are being managed by the Ministry through the National Skill Development Agency (an autonomous body under the Ministry) in close partnership with industry- ledsector-specificbodies(SectorSkillCouncils)andvariouslineministries.

India has bilateral collaboration with governments including those of the UK, Australia, Germany, Canada, and the UAE, with the intention of implementing globally acceptable standards and providingtheIndianworkforce with overseas job mobility.

JAPAN

Japanese vocational schools are known as *senmon gakkō*. They are part of Japan's highereducation system.Theyaretwo-yearschoolsthatmanystudentsstudyatafter finishing high school (although it is not always required that students graduate from high school). Some have a wide range of majors, others only a few majors. Some examples are computer technology, fashion, and English.

SOUTH KOREA

Vocational high schools offer programmes in five fields: agriculture, technology/engineering, commerce/business,maritime/fishery,andhomeeconomics.In principle, all students in the first year of high school (10th grade) follow a common nationalcurriculum,Inthesecondandthirdyears(11th and12thgrades)studentsare offered courses relevant to their specialisation. In some programmes,

students may participate in workplace training through co-operation between schools and local employers. The government is now piloting Vocational Meister Schools in which workplace training is an important part of the programme. Around half of all vocational high schools are private. Private and public schools operate according to similar rules; for example, they charge the same fees for high school education, with an exemption for poorer families.

The number of students in vocational high schools has decreased, from about half of students in 1995 down to about one-quarter today. To make vocational high schools more attractive, in April 2007 the Korean government changed the name of vocational high schools into professional high schools. With the change of the name the government also facilitated the entry of vocational high school graduates to colleges and universities.

Most vocational high school students continue into tertiary education; in 2007 43% transferred to junior colleges and 25% to university. At tertiary level, vocational education and training is provided in junior colleges (two- and three-year programmes) and at polytechnic colleges. Education at junior colleges and in two-year programmes in polytechnic colleges leads to an Industrial associate degree. Polytechnics also provide one-year programmes for craftsmen and master craftsmen and short programmes for employed workers. The requirements for admission to these institutions are in principle the same as those in the rest of tertiary sector (on the basis of the College Scholastic Aptitude Test) but candidates with vocational qualifications are given priority in the admission process. Junior colleges have expanded rapidly in response to demand and in 2006 enrolled around 27% of all tertiary students.

95% of junior college students are in private institutions. Fees charged by private colleges are approximately twice those of public institutions. Polytechnic colleges are state-run institutions under the responsibility of the Ministry of Labour; government funding keeps student fees much lower than those charged by other tertiary institutions. Around 5% of students are enrolled in polytechnic colleges.

MALAYSIA

Skills training are no longer depicted as second-class education in Malaysia. There are numerous vocational education centres here including vocational schools (high schools to train skilled students), technic schools (high schools to train future engineers) and vocational colleges all of them under the Ministry of Education. Then there are 33 polytechnics and 86 community colleges under the Ministry of Higher Education; 10 MARA Advanced Skills Colleges, 13 MARA Skills Institutes, 286 GIATMARAs under Majlis Amanah Rakyat (MARA) and 15 National Youth Skills Institutes under Ministry of Youth and Sports. The first vocational institute in Malaysia is the Industrial Training Institute of Kuala Lumpur established in 1964 under the Manpower Department. Other institutes under the same department including 8 Advanced Technology Training Centres, one Centre for Instructor and Advanced Skill Training, one Japan-Malaysia Technical Institute and the other 21 ITIs.

MEXICO

In Mexico, both federal and state governments are responsible for the administration of vocational education. Federal schools are funded by the federal budget, in addition to their own funding sources. The state governments are responsible for the management of decentralised institutions, such as the State Centres for Scientific and Technological Studies (CECyTE) and Institutes of Training for Work (ICAT). These institutions are funded 50% from the federal budget and 50% from the state budget. The state governments also manage and fund "decentralised institutions of the federation", such as CONALEP schools. These educational centers work with classes of occupations like of

workers, of welder, of electrical, of automotive mechanic, of dressmakers, of typewriter use classes, etc. with the same schedule of real secondaries and with special books oriented to low-class people and with supercutted content of real secondary schools. Name of this establishments always is "Secundaria Técnica Industrial" and a name or a simply number in case of secondary school level and "Colegio de Bachilleres" ("COBA"), "Centro de Bachillerato Tecnológico Industrial y de Servicios" ("Cbtis") and "CONALEP" in case of preparatory school level, and a simply number (except "CONALEP", in this case, there is only one by city or settlement and are not put any name more than "CONALEP"), and always are abandoned by the SEP by giving lower priority against real schools, being in very precarious conditions well. There are certain public and in rare cases very low-budget private universities which that preparatories are just vocational, the most famous example is the **National Polytechnic Institute**. Some private schools of very low budget are also vocationals of secondary or preparatory level. In 2004 there were rumors within the government in Mexico that this classification of schools finally going to disappear, but finally did not happen.

Compulsory education (including primary and lower secondary education) finishes at the age of 15 and about half of those aged 15-to-19 are enrolled full-time or part-time in education. All programmes at upper secondary level require the payment of a tuition fee.

The upper secondary vocational education system in Mexico includes over a dozen subsystems (administrative units within the Upper Secondary Education Undersecretariat of the Ministry of Public Education, responsible for vocational programmes) which differ from each other to varying degrees in content, administration, and target group. The large number of school types and corresponding administrative units within the Ministry of Public Education makes the institutional landscape of vocational education and training complex by international standards.

Vocational education and training provided under the Upper Secondary Education Under secretariat includes three main types of programme:

- "Training for work" (formación para el trabajo) courses at ISCED 2 level are short training programmes, taking typically 3 to 6 months to complete. The curriculum includes 50% theory and 50% practice. After completing the programme, students may enter the labour market. This programme does not provide direct access to tertiary education. Those who complete lower secondary education may choose between two broad options of vocational upper secondary education at ISCED 3 level. Both programmes normally take three years to complete and offer a vocational degree as well as the baccalaureate, which is required for entry into tertiary education.
- The title "technical professional – baccalaureate" (profesional técnico — bachiller) is offered by various subsystems though one subsystem (CONALEP) includes two thirds of the students. The programme involves 35% general subjects and 65% vocational subjects. Students are required to complete 360 hours of practical training.
- The programme awarding the "technological baccalaureate" (bachillerato tecnológico) and the title "professional technician" (técnico professional) is offered by various subsystems. It includes more general and less vocational education: 60% general subjects and 40% vocational subjects.

THE NETHERLANDS

Nearly all of those leaving lower secondary school enter upper secondary education, and around 50% of them follow one of four vocational programmes; technology, economics, agricultural, personal/social services & health care. These programmes vary from 1 to 4 years (by level; only level 2, 3 and 4 diplomas are considered formal 'start qualifications' for successfully entering the labour

market). The programmes can be attended in either of two pathways. One either involving a minimum of 20% of school time (apprenticeship pathway; BBL-BeroepsBegeleidende Leerweg) or the other, involving a maximum of 80% schooltime (BOL -BeroepsOpleidende Leerweg). The remaining time in both cases is apprenticeship/work in a company. So in effect, students have a choice out of 32 trajectories, leading to over 600 professional qualifications. BBL-Apprentices usually receive a wage negotiated in collective agreements. Employers taking on these apprentices receive a subsidy in the form of a tax reduction on the wages of the apprentice. (WVA-Wetvermindering afdracht). Level 4 graduates of senior secondary VET may go directly to institutes for Higher Profession Education and Training (HBO-Hoger beroepsonderwijs), after which entering university is a possibility. The social partners participate actively in the development of policy. As of January 1, 2012 they formed a foundation for Co operation Vocational Education and Entrepreneurship (St. SBB – stichting Samenwerking Beroepsonderwijs Bedrijfsleven; www.s-bb.nl). Its responsibility is to advise the Minister on the development of the national vocational education and training system, based on the full consensus of the constituent members (the representative organisations of schools and of entrepreneurship and their centres of expertise). Special topics are Qualification & Examination, Apprenticeships (BPV-Beroepspraktijkvorming) and (labourmarket) Efficiency of VET. The Centres of Expertices are linked to the four vocational education programmes provided in senior secondary VET on the content of VET programmes and on trends and future skill needs. The Local County Vocational Training (MBO Raad www.mboraad.nl) represents the VET schools in this foundation and advise on the quality, operations and provision of VET.

NEW ZEALAND

New Zealand is served by 11 Industry Training Organisations (ITO). The unique element is that ITOs purchase training as well as set standards and aggregate industry opinion about skills in the labour market. Industry Training, as organised by ITOs, has expanded from apprenticeships to a more true lifelong learning situation with, for example, over 10% of trainees aged 50 or over. Moreover, much of the training is generic. This challenges the prevailing idea of vocational education and the standard layperson view that it focuses on apprenticeships.

One source for information in New Zealand is the Industry Training Federation. Another is the Ministry of Education.

Polytechnics, Private Training Establishments, Wananga and others also deliver vocational training, amongst other areas.

NORWAY

Nearly all those leaving lower secondary school enter upper secondary education, and around half follow one of nine vocational programmes. These programmes typically involve two years in school followed by two years of apprenticeship in a company. The first year provides general education alongside introductory knowledge of the vocational area. During the second year, courses become more trade-specific.

Apprentices receive a wage negotiated in collective agreements ranging between 30% and 80% of the wage of a qualified worker; the percentage increasing over the apprenticeship period. Employers taking on apprentices receive a subsidy, equivalent to the cost of one year in school. After the two years vocational school programme some students opt for a third year in the 'general' programme as an alternative to an apprenticeship. Both apprenticeship and a third year of practical training in school lead to the same vocational qualifications. Upper secondary VET graduates may go directly to Vocational Technical Colleges, while those who wish to enter university need to take a supplementary

year of education.

The social partners participate actively in the development of policy. The National Council for Vocational Education and Training advises the Minister on the development of the national vocational education and training system. The Advisory Councils for Vocational Education and Training are linked to the nine vocational education programmes provided in upper secondary education and advise on the content of VET programmes and on trends and future skill needs.

The National Curriculum groups assist in deciding the contents of the vocational training within the specific occupations. The Local County Vocational Training Committees advise on the quality, provision of VET and career guidance.

PARAGUAY

In Paraguay, vocational education is known as *Bachillerato Técnico* and is part of the secondary education system. These schools combine general education with some specific subjects, referred to as pre-vocational education and career orientation. After nine years of *Educación Escolar Básica* (Primary School), the student can choose to go to either a *Bachillerato Técnico* (Vocational School) or a *Bachillerato Científico* (High School). Both forms of secondary education last three years, and are usually located in the same campus called *Colegio*.

After completing secondary education, one can enter to the universities. It is also possible for a student to choose both Técnico and Científico schooling.

RUSSIA SRI

LANKA

Vocational training from Agricultural subjects to ICT related subjects are available in Sri Lanka. In 2005 the Ministry of Vocational and Technical Training (MVTT) introduced the National Vocational Qualifications (NVQ) framework which was an important milestone for the education, economic and social development of Sri Lanka.

The NVQ framework consists of seven levels of instruction. NVQ levels 1 to 4 are for craftsmen designation and successful candidates are issued with National certificates. NVQ levels 5 and 6 are Diploma level, whereas Level 7 is for degree equivalent qualification.

Training courses are provided by many institutions island wide. All training providers (public and private) must obtain institutional registration and course accreditation from the Tertiary and Vocational Education Commission (TVEC). In order to obtain registration institutions must satisfy specific criteria: infrastructure, basic services, tools and equipment, quality of instruction and staff, based on curriculum and syllabus, and quality of management and monitoring systems.

Government Ministries and Agencies involved in Vocational Training are The Ministry of Vocational and Technical Training (MVTT), The Tertiary and Vocational Education Commission (TVEC), The National Apprentice and Industrial Training Authority (NAITA), The Department of Technical Education and Training (DTET), The Vocational Training Authority (VTA) and the National Youth Services Council (NYSC).

SWEDEN

Nearly all of those leaving compulsory schooling immediately enter upper secondary schools, and most complete their upper secondary education in three years. Upper secondary education is divided into 13 vocationally oriented and 4 academic national programmes. Slightly more than half of all students follow vocational programmes.

All programmes offer broad general education and basic eligibility to continue studies at the post-secondary level. In addition, there are local programmes specially designed to meet local needs and 'individual' programmes.

A 1992 school reform extended vocational upper secondary programmes by one year, aligning them with three years of general upper secondary education, increasing their general education content, and making core subjects compulsory in all programmes. The core subjects (which occupy around one-third of total teaching time in both vocational and academic programmes) include English, artistic activities, physical education and health, mathematics, natural science, social studies, Swedish or Swedish as a second language, and religious studies. In addition to the core subjects, students pursue optional courses, subjects which are specific to each programme and a special project.

Vocational programmes include 15 weeks of workplace training (Arbetsplatsförlagd utbildning – APU) over the three-year period. Schools are responsible for arranging workplace training and verifying its quality. Most municipalities have advisory bodies: programme councils (programmråd) and vocational councils (yrkesråd) composed of employers' and employees' representatives from the locality. The councils advise schools on matters such as provision of workplace training courses, equipment purchase and training of supervisors in APU.

SWITZERLAND

Nearly two thirds of those entering upper secondary education enter the vocational education and training system. At this level, vocational education and training is mainly provided through the 'dual system'. Students spend some of their time in a vocational school; some of their time doing an apprenticeship at a host company; and for most programmes, students attend industry courses at an industry training centre to develop complementary practical skills relating to the occupation at hand. Common patterns are for students to spend one-two days per week at the vocational school and three-four days doing the apprenticeship at the host company; alternatively they alternate between some weeks attending classes at the vocational school and some weeks attending industry courses at an industry training centre. A different pattern is to begin the programme with most of the time devoted to in-school education and gradually diminishing the amount of in-school education in favour of more in-company training.

Switzerland draws a distinction between vocational education and training (VET) programmes at upper-secondary level, and professional education and training (PET) programmes, which take place at tertiary B level. In 2007, more than half of the population aged 25–64 had a VET or PET qualification as their highest level of education. In addition, universities of applied sciences (Fachhochschulen) offer vocational education at tertiary A level. Pathways enable people to shift from one part of the education system to another.

TURKEY

Students in Turkey may choose vocational high schools after completing the 8-year-long compulsory primary and secondary education. Vocational high school graduates may pursue two year-long polytechnics or may continue with a related tertiary degree.

According to a survey by OECD, 38% of 15-year-old students attend vocational study programmes that are offered by *Anatolian vocational*, *Anatolian technical*, and *technical high schools*.

Municipalities in Turkey also offer vocational training. The metropolitan municipality of Istanbul, the most populous city in Turkey, offers year long free vocational programs in a wide range of topics through ISMEK, an umbrella organization formed under the municipality.

UNITED KINGDOM

The first "Trades School" in the UK was *Stanley Technical Trades School* (now Harris Academy South Norwood) which was designed, built and set up by William Stanley. The initial idea was thought of in 1901, and the school opened in 1907.

The system of vocational education in the UK initially developed independently of the state, with bodies such as the RSA and City & Guilds setting examinations for technical subjects. The Education Act 1944 made provision for a Tripartite System of grammar schools, secondary technical schools and secondary modern schools, but by 1975 only 0.5% of British senior pupils were in technical schools, compared to two- thirds of the equivalent German age group.

Successive recent British Governments have made attempts to promote and expand vocational education. In the 1970s, the Business And Technology Education Council was founded to confer further and higher education awards, particularly to further education colleges in the United Kingdom. In the 1980s and 1990s, the Conservative Government promoted the Youth Training Scheme, National Vocational Qualifications and General National Vocational Qualifications. However, youth training was marginalised as the proportion of young people staying on in full-time education increased.

In 1994, publicly funded Modern Apprenticeships were introduced to provide "quality training on a work-based (educational) route". Numbers of apprentices have grown in recent years and the Department for Children, Schools and Families has stated its intention to make apprenticeships a "mainstream" part of England's education system.

In the UK some higher technician engineering positions that require 4-5 year apprenticeship require academic study to HNC / HND or higher City & Guilds level. Apprenticeships are increasingly recognised as the gold standard for work-based training. There are three levels of Apprenticeship available for those aged 16 and over:

- **1 - Intermediate Level Apprenticeships**

Apprentices work towards work-based learning qualifications such as a Level 2 Competence Qualification, Functional Skills and, in most cases, a relevant knowledge- based qualification.

- **2 - Advanced Level Apprenticeships**

Apprentices work towards work-based learning such as a Level 3 Competence Qualification, Functional Skills and, in most cases, a relevant knowledge based qualification.

- **3 - Higher Apprenticeships**

Apprentices work towards work-based learning qualifications such as a Level 4 and 5 Competence Qualification, Functional Skills and, in some cases, a knowledge-based qualification such as a

Foundation Degree.

Chapter 11
Sports Development among Young Boys and Girls

Sports are all forms of usually competitive physical activity or games which, through casual or organised participation, aim to use, maintain or improve physical ability and skills while providing enjoyment to participants, and in some cases, entertainment for spectators. Usually the contest or game is between two sides, each attempting to exceed the other. Some sports allow a tie game; others provide tie-breaking methods, to ensure one winner and one loser. A number of such two-sided contests may be arranged in a tournament producing a champion. Many sports leagues make an annual champion by arranging games in a regular sports season, followed in some cases by playoffs. Hundreds of sports exist, from those between single contestants, through to those with hundreds of simultaneous participants, either in teams or competing as individuals. In certain sports such as racing, many contestants may compete, each against all with one winner.

Sport in childhood. Association football, shown above, is a team sport which also provides opportunities to nurture physical fitness and social interaction skills.

Sport is generally recognised as system of activities which are based in physical athleticism or physical dexterity, with the largest major competitions such as the Olympic Games admitting only sports meeting this definition, and other organisations such as the Council of Europe using definitions precluding activities without a physical element from classification as sports. However, a number of competitive, but non- physical, activities claim recognition as mind sports. The International Olympic Committee (through ARISF) recognises both chess and bridge as *bona fide* sports, and SportAccord, the international sports federation association, recognises five non- physical sports: bridge, chess, draughts (checkers), Go, and xiangqi, and limits the number of mind games which can be admitted as sports.

Sports are usually governed by a set of rules or customs, which serve to ensure fair competition, and allow consistent adjudication of the winner. Winning can be determined by physical events such as scoring goals or crossing a line first. It can also be determined by judges who are scoring elements of the sporting performance, including objective or subjective measures such as technical performance or artistic impression.

Records of performance are often kept, and for popular sports, this information may be widely announced or reported in sport news. Sport is also a major source of entertainment for non-participants, with spectator sport drawing large crowds to sport venues, and reaching wider audiences through broadcasting. Sports betting is in some cases severely regulated, and in some cases is central to the sport.

According to A.T. Kearney, a consultancy, the global sporting industry is worth up to $620 billion as of 2013. The world's most accessible and practised sport is running, while association football is its most popular spectator sport.

MEANING AND USAGE

ETYMOLOGY

The word "Sport" comes from the Old French *desport* meaning "leisure", with the oldest definition in English from around 1300 being "anything humans find amusing or entertaining".

Other meanings include gambling and events staged for the purpose of gambling; hunting; and games and diversions, including ones that require exercise. Roget's defines the noun sport as an "activity engaged in for relaxation and amusement" with synonyms including diversion and recreation.

NOMENCLATURE

The singular term "sport" is used in most English dialects to describe the overall concept (e.g. "children taking part in sport"), with "sports" used to describe multiple activities (e.g. "football and rugby are the most popular sports in England"). American English uses "sports" for both terms.

DEFINITION

The International Olympic Committee recognizes some board games as sports including chess.

Show jumping, an equestrian sport

The precise definition of what separates a sport from other leisure activities varies between sources. The closest to an international agreement on a definition is provided by SportAccord, which is the association for all the largest international sports federations (including association football, athletics, cycling, tennis, equestrian sports, and more), and is therefore the *de facto* representative of international sport.

SportAccord uses the following criteria, determining that a sport should:

- have an element of competition
- be in no way harmful to any living creature
- not rely on equipment provided by a single supplier (excluding proprietary games such as arena football)
- not rely on any "luck" element specifically designed into the sport

They also recognise that sport can be primarily physical (such as rugby or athletics), primarily mind (such as chess or go), predominantly motorised (such as Formula 1 or powerboating), primarily co-ordination (such as billiard sports), or primarily animal- supported (such as equestrian sport).

The inclusion of mind sports within sport definitions has not been universally accepted, leading to legal challenges from governing bodies in regards to being denied funding available to sports. Whilst SportAccord recognises a small number of mind sports, it is not open to admitting any further mind sports.

There has been an increase in the application of the term "sport" to a wider set of non- physical challenges such as video games, also called esports, especially due to the large scale of participation and organised competition, but these are not widely recognised by mainstream sports organisations.

COMPETITION

There are opposing views on the necessity of competition as a defining element of a sport, with almost all professional sport involving competition, and governing bodies

requiring competition as a prerequisite of recognition by the International Olympic Committee(IOC) or SportAccord.

Other bodies advocate widening the definition of sport to include all physical activity. For instance, the Council of Europe include all forms of physical exercise, including those competed just for fun.

In order to widen participation, and reduce the impact of losing on less able participants, there has been an introduction of non-competitive physical activity to traditionally competitive events such as school sports days, although moves like this are often controversial.

In competitive events, participants are graded or classified based on their "result" and often divided into groups of comparable performance, (e.g. gender, weight and age). The measurement of the result may be objective or subjective, and corrected with "handicaps" or penalties. In a race, for example, the time to complete the course is an objective measurement. In gymnastics or diving the result is decided by a panel of judges, and therefore subjective. There are many shades of judging between boxing and mixed martial arts, where victory is assigned by judges if neither competitor has lost at the end of the match time.

HISTORY
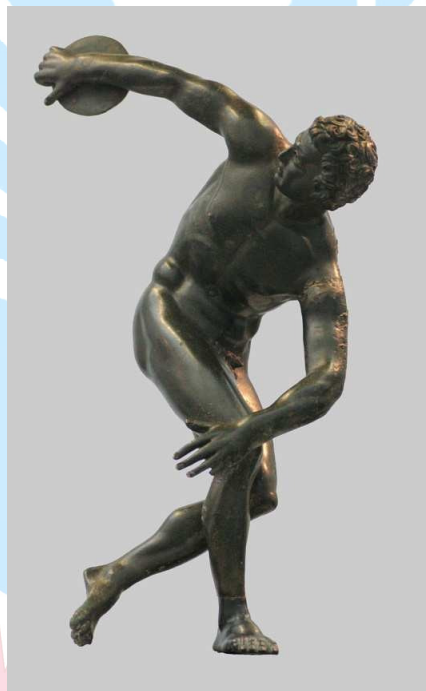
Roman bronze reduction of Myron's Discobolos, 2nd century AD.

Artifacts and structures suggest sport in China as early as 2000 BC. Gymnastics appears to have been popular in China's ancient past. Monuments to the Pharaohs indicate that a number of sports, including swimming and fishing, were well-developed and regulated several thousands of years ago in ancient Egypt. Other Egyptian sports included javelin throwing, high jump, and wrestling. Ancient Persian sports such as the traditional Iranian martial art of Zourkhaneh had a close connection to warfare skills. Among other sports that originate in ancient Persia are polo and jousting.

Motorized sports have appeared since the advent of the modern age

Electronic sports are a recent development.

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.

Sports have been increasingly organised and regulated from the time of the ancient Olympics up to the present century. Industrialisation has brought increased leisure time, letting people attend and follow spectator sports and participate in athletic activities. These trends continued with the advent of mass media and global communication. Professionalism became prevalent, further adding to the increase in sport's popularity, as sports fans followed the exploits of professional athletes — all while enjoying the exercise and competition associated with amateur participation in sports. Since the turn of the 21st century, there has been increasing debate about whether transgender sportpersons should be able to participate in sport events that conform with their post-transition gender identity.

FAIR PLAY SPORTSMANSHIP

Sportsmanship is an attitude that strives for fair play, courtesy toward teammates and opponents, ethical behaviour and integrity, and grace in victory or defeat.

Sportsmanship expresses an aspiration or ethos that the activity will be enjoyed for its own sake. The well-known sentiment by sports journalist Grantland Rice, that it's "not that you won or lost but how you played the game", and the modern Olympic creed expressed by its founder Pierre de Coubertin: "The most important thing... is not winning but taking part" are typical expressions of this sentiment.

CHEATING

Key principles of sport include that the result should not be predetermined, and that both sides should have equal opportunity to win. Rules are in place to ensure that fair play to occur, but participants can break these rules in order to gain advantage.

Participants may choose to cheat in order to satisfy their desire to win, or in order to achieve an ulterior motive. The widespread existence of gambling on the results of sports fixtures creates the motivation for match fixing, where a participant or participants deliberately work to ensure a given outcome.

DOPING AND DRUGS

The competitive nature of sport encourages some participants to attempt to enhance their performance through the use of medicines, or through other means such as increasing the volume of blood in their bodies through artificial means.

All sports recognised by the IOC or SportAccord are required to implement a testing programme, looking for a list of banned drugs, with suspensions or bans being placed on participants who test positive for banned substances.

VIOLENCE

Violence in sports involves crossing the line between fair competition and intentional aggressive violence. Athletes, coaches, fans, and parents sometimes unleash violent behaviour on people or property, in misguided shows of loyalty, dominance, anger, or celebration. Rioting or hooliganism by fans in particular is a problem at some national and international sporting contests.

PARTICIPATION

GENDER PARTICIPATION

Female participation in sports continues to rise alongside the opportunity for involvement and the value of sports for child development and physical fitness. Despite gains during the last three decades, a gap persists in the enrollment figures between male and female players. Female players account for 39% of the total participation in US interscholastic athletics. Gender balance has been accelerating from a 32% increase in 1973–74 to a 63% increase in 1994–95. Hessel (2000).

Fernanda Brito of Chile playing women's doubles tennis at Wimbledon in 2010.

YOUTH PARTICIPATION

Youth sports present children with opportunities for fun, socialization, forming peer relationships, physical fitness, and athletic scholarships. Activists for education and the war on drugs encourage youth sports as a means to increase educational participation and to fight the illegal drug trade. According to the Center for Injury Research and Policy at Nationwide Children's Hospital, the biggest risk for youth sports is death or serious injury including concussion. These risks come from running, basketball, association football, volleyball, gridiron, gymnastics, and ice hockey.

DISABLED PARTICIPATION

A runner gives a friendly tap on the shoulder to a wheelchair racer during the Marathon International de Paris (Paris Marathon) in 2014.

Disabled sports also adaptive sports or parasports, are sports played by persons with a disability, including physical and intellectual disabilities. As many of these based on existing sports modified to meet the needs of persons with a disability, they are sometimes referred to as *adapted sports*. However, not all disabled sports are adapted; several sports that have been specifically created for persons with a disability have no equivalent in able-bodied sports.

SPECTATOR INVOLVEMENT
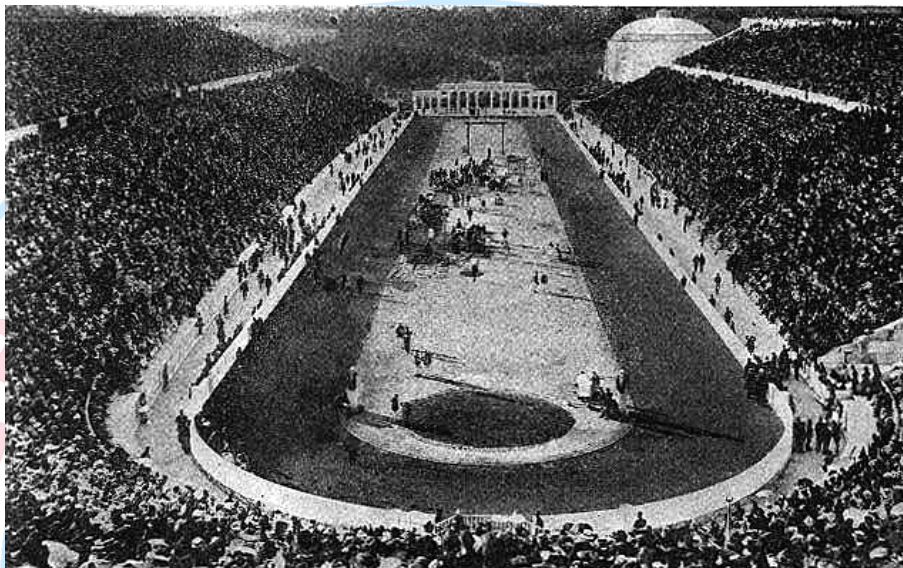
Spectators at the 1906 unofficial Olympic Games

The competition element of sport, along with the aesthetic appeal of some sports, result in the popularity of people attending to watch sport being played. This has led to the specific phenomenon of spectator sport.

Both amateur and professional sports attract spectators, both in person at the sport venue, and through broadcast mediums including radio, television and internet broadcast. Both attendance in person and viewing remotely can incur a sometimes substantial charge, such as an entrance ticket, or pay-per-view television broadcast.

It is common for popular sports to attract large broadcast audiences, leading to rival broadcasters bidding large amounts of money for the rights to show certain fixtures. The football World Cup attracts a global television audience of hundreds of millions; the 2006 final alone attracted an estimated worldwide audience of well over 700 million and the 2011 Cricket World Cup Final attracted an estimated audience of 135 million in India alone.

In the United States, the championship game of the NFL, the Super Bowl, has become one of the most watched television broadcasts of the year. Super Bowl Sunday is a *de facto* national holiday in America;] the viewership being so great that in 2015, advertising space was reported as being sold at $4.5m for a 30-second slot.

ISSUES AND CONSIDERATIONS AMATEUR AND

PROFESSIONAL

Modern sports have complex rules and are highly organized.

Sport can be undertaken on an amateur, professional or semi-professional basis, depending on whether participants are incentivised for participation (usually through payment of a wage or salary). Amateur participation in sport at lower levels is often called "grassroots sport".

The popularity of spectator sport as a recreation for non-participants has led to sport becoming a major business in its own right, and this has incentivised a high paying professional sport culture, where high performing participants are rewarded with pay far in excess of average wages, which can run into millions of dollars.

Some sports, or individual competitions within a sport, retain a policy of allowing only amateur sport. The Olympic Games started with a principle of amateur competition with those who practiced a sport professionally considered to have an unfair advantage over those who practiced it merely as a hobby. From 1971, Olympic athletes were allowed to receive compensation and sponsorship, and from 1986, the IOC decided to make all professional athletes eligible for the Olympics, with the exceptions of boxing, and wrestling.

TECHNOLOGY

Technology plays an important part in modern sports. With it being a necessary part of some sports (such as motorsport), it is used in others to improve performance. Some sports also use it to allow off-field decision making.

Sports science is a widespread academic discipline, and can be applied to areas including athlete performance, such as the use of video analysis to fine-tune technique, or to equipment, such as improved running shoes or competitive swimwear. Sports engineering emerged as a discipline in 1998 with an increasing focus not just on

materials design but also the use of technology in sport, from analytics and big data to wearable technology. In order to control the impact of technology on fair play, governing bodies frequently have specific rules that are set to control the impact of technical advantage between participants. For example, in 2010, full-body, non-textile swimsuits were banned by FINA, as they were enhancing swimmers' performances.

In 2014, new technology led to the introduction of hybrid engines in Formula One in 2014, as a way of increasing fuel efficiency. The cars use an energy recovery system similar to, but more effective than, the KERS system that was previously used, which recovers energy from braking and the exhaust. Another innovation is the Drag reduction system, which involves opening a slot in a car's rear wing, to reduce aerodynamic drag in order to increase top speed and promote overtaking in motor racing. It has been used in Formula One since 2011, Formula Renault 3.5 since 2012, and Deutsche Tourenwagen Masters since 2013.

The increase in technology has also allowed many decisions in sports matches to be taken, or reviewed, off-field, with another official using instant replays to make decisions. In some sports, players can now challenge decisions made by officials. In football, Goal-line technology makes decisions on whether a ball has crossed the goal line or not. The technology is not compulsory, but was used in the 2014 FIFA World Cup in Brazil, and the 2015 FIFA Women's World Cup in Canada, as well as in the Premier League from 2013–14, and the Bundesliga from 2015–16. In the NFL, a referee can ask for a review from the replay booth, or a head coach can issue a challenge to review the play using replays. The final decision rests with the referee. A video referee (commonly known as a Television Match Official or TMO) can also use replays to help decision-making in rugby (both league and union). In international cricket, an umpire can ask the Third umpire for a decision, and the third umpire makes the final decision. Since 2008, a decision review system for players to review decisions has been introduced and used in ICC-run tournaments, and optionally in other matches. Depending on the host broadcaster, a number of different technologies are used during an umpire or player review, including instant replays, Hawk-Eye, Hot Spot and Real Time Snickometer. Hawk-Eye is also used in tennis to challenge umpiring decisions.

POLITICS

Sports and politics can influence each other greatly.

Benito Mussolini used the 1934 FIFA World Cup, which was held in Italy, to showcase Fascist Italy. Adolf Hitler also used the 1936 Summer Olympics held in Berlin, and the 1936 Winter Olympics held in Garmisch-Partenkirchen, to promote the Nazi ideology of the superiority of the Aryan race, and inferiority of the Jews and other "undesirables". Germany used the Olympics to give of itself a peaceful image while it was very actively preparing the war.

When apartheid was the official policy in South Africa, many sports people, particularly in rugby union, adopted the conscientious approach that they should not appear in competitive sports there. Some feel this was an effective contribution to the eventual demolition of the policy of apartheid, others feel that it may have prolonged and reinforced its worst effects.

In the history of Ireland, Gaelic sports were connected with cultural nationalism. Until the mid 20th century a person could have been banned from playing Gaelic football, hurling, or other sports administered by the Gaelic Athletic Association (GAA) if she/he played or supported football, or other games seen to be of British origin. Until recently the GAA continued to ban the playing of football and rugby union at Gaelic venues. This ban is still enforced, but was modified to allow football and rugby to be played in Croke Park while Lansdowne Road was redeveloped into Aviva Stadium. Until recently, under Rule 21, the GAA also banned members of the British security forces and members of the RUC from playing Gaelic games, but the advent of the Good Friday Agreement in 1998 led to the eventual removal of the ban.

Nationalism is often evident in the pursuit of sports, or in its reporting: people compete in national teams, or commentators and audiences can adopt a partisan view. On occasion, such tensions can lead to violent confrontation among players or spectators within and beyond the sporting venue, as in the Football War. These trends are seen by many as contrary to the fundamental ethos of sports being carried on for its own sake and for the enjoyment of its participants.

A very famous case when sports and politics collided was the 1972 Olympics in Munich. Masked men entered the hotel of the Israeli olympic team and killed many of their men. This was known as the Munich massacre.

A study of US elections has shown that the result of sports events can affect the results. A study published in the Proceedings of the National Academy of Sciences showed that when the home team wins the game before the election, the incumbent candidates can increase their share of the vote by 1.5 percent. A loss had the opposite effect, and the effect is greater for higher-profile teams or unexpected wins and losses. Also, when Washington Redskins win their final game before an election, then the incumbent President is more likely to win, and if the Redskins lose, then the opposition candidate is more likely to win; this has become known as the Redskins Rule.

Chapter 12
Youth Empowerment
and Development

Youth Empowerment is a process where children and young people are encouraged to take charge of their lives. They do this by addressing their situation and then take action in order to improve their access to resources and transform their consciousness through their beliefs, values, and attitudes. Youth empowerment aims to improve quality of life. Youth empowerment is achieved through participation in youth empowerment programs. However scholars argue that children's rights implementation should go beyond learning about formal rights and procedures to give birth to a concrete experience of rights. There are numerous models that youth empowerment programs use that help youth achieve empowerment. A variety of youth empowerment initiatives are underway around the world. These programs can be through non-profit organizations, government organizations, schools or private organizations.

Youth empowerment is different than youth development because development is centered on developing individuals, while empowerment is focused on creating greater community change relies on the development of individual capacity.

Empowerment movements, including youth empowerment, originate, gain momentum, become viable, and become institutionalized. Youth empowerment is often addressed as a gateway to intergenerational equity, civic engagement and democracy building. Activities may focus on youth-led media, youth rights, youth councils, youth activism, youth involvement in community decision-making, and other methods.

ELEMENTS OF EMPOWERMENT

EMPOWERMENT THEORY

Empowerment theory focuses on processes that enable participation; enhance control through shared decision making; and create opportunities to learn, practice, and increase skills. Empowerment theory suggests that engaging youth in pro-social, meaningful, and community-enhancing activities that the youth themselves define and control, helps youth gain vital skills, responsibilities, and confidence necessary to become productive and healthy adults.

TYPES OF EMPOWERMENT

Youth empowerment examines six interdependent dimensions: psychological, community, organizational, economic, social and cultural. Psychological empowerment enhances individual's consciousness, belief in self-efficacy, awareness and knowledge of problems and solutions and of how individuals can address problems that harm their quality of life. This dimension aims to create self-confidence and give youth the skills to acquire knowledge. Community empowerment focuses on enhancing the community through leadership development, improving communication, and creating a network of support to mobilize the community to address concerns. Organizational empowerment

aims to create a base of resources for a community, including voluntary organizations, unions and association that aim to protect, promote and advocate for the powerless. Economic empowerment teaches entrepreneurial skills, how to take ownership of their assets and how to have income security. Social empowerment teaches youth about social inclusion and literacy as well as helping kids find the resources to be proactive in their communities. Cultural empowerment aims to recreate cultural practices and redefine cultural rules and norms for youth. Through these dimensions of empowerment, programs can work on empowering youth in one or more aspects of their lives.

GOALS OF EMPOWERMENT

Youth empowerment programs are aimed at creating healthier and higher qualities of life for underprivileged or at-risk youth. The five competencies of a healthy youth are: (1) positive sense of self, (2) self-control, (3) decision-making skills, (4) a moral system of belief, and (5) pro-social connectedness. Developmental interventions and programs have to be anchored on these competencies that define positive outcomes of healthy youth.

MEASURABLE EMPOWERMENT

Over the last two decades, Quality of Life (QOL) has emerged as an important unit of measurement to evaluate the success of empowerment programs. It is used as a goal of programs and as well as an indicator of effectiveness. However, there is no standard definition of QOL. A person's QOL is dependent upon subjective evaluation of the individual aspects of that individual's life.

POSITIVE DEVELOPMENT SETTINGS

Youth empowerment programs thrive in positive developmental settings. Positive developmental settings promote youth competence, confidence and connections. Two features of the positive developmental youth settings are supportive relationships and support for efficacy and mattering. Supportive relationships are those that are between youth and non-familial adults that foster trust and respect. Support for efficacy and mattering specifically focuses on youth being active, instrumental agents of change in their communities, collective decision-making and adults listen to and respect their voice.

YOUTH EMPOWERMENT PROGRAMS

There are various types of empowerment programs across the globe that empower youth through many different tactics and programs. Programs can operate in a variety of settings. The majority of programs operate in more than one setting, which may be a key factor in their success. The beneficial outcomes to youth empowerment programs are improved social skills, improved behavior, increased academic achievement, increased self-esteem and increased self-efficacy.

There are programs are aimed at just empowering women and young girls. Regardless of specific goals or methods, empowering effects include improving women's wellbeing, self-esteem, and self-efficacy, and enhancing social status by teaching technical and organizational skills.

Other youth empowerment programs are focused on poverty alleviation. Living standards are for those living in poverty are declining causing forms of deprivation as it relates to food, resources and education. Programs aimed at empowering poor youth, work toward livelihood protection or livelihood promotion.

There are also empowerment movements that use the social action model, aiming for disadvantaged

people to become empowered, organized, and educated so that they may create change. These programs advocate for constructive confrontations to enhance the social power of people who are considered disadvantaged. Another model is the 5C's model that focuses on emphasizing competence, confidence, connection, character and caring. A sixth C of contribution to society was later added. This model focuses primarily on engagement as a key marker of positive youth development, emphasizing the need to foster initiative. Youth-adult partnerships are another type of empowerment method used around the world. This method has been defined as a developmental process and a community practice. The partnership involves people of different ages working together on community issues over a period of time. The method emphasizes reciprocity among adults and youth with a focus on shared decision making and reflective learning. The concept of shared control is key for empowering youth.

Youth empowerment has also been used as a framework to prevent and reduce youth violence. Research shows that these youth empowerment programs can improve conflict avoidance and resolution skills, increase group leadership skills, and civic efficacy and improve ethnic identity and reduce racial conflict.

EXAMPLES OF YOUTH EMPOWERMENT PROGRAMS

Around the globe there are various empowerment programs focused on a wide variety of things and this is not a comprehensive list. Unsuccessful youth empowerment programs have not been carefully documented or published in case studies.

In Namibia, one popular empowerment program is Pots of Hope. Pots of Hope's main goal is to reduce the vulnerability youth to HIV and Aids through education, information and awareness, as well as income security projects. Pots of Hope works by educating, and providing counseling to those in rural settings who do not have access to those resources. This program focuses on organizational empowerment within the community.

Within the United States there are countless empowerment programs for youth. Urban 4-H is a culturally responsive, community-based practice that authentically engages families, youth and the community in the development of youth. Urban 4-H is an example of community empowerment that focuses on the economic and social dimensions of empowerment. The program helps youth build skills to enable them to overcome economic and social barriers while recognizing the importance of self-directed learning for youth. Urban 4-H focuses on empowering youth to think critically, communicate across cultural boundaries and lead others.

*Youth participating in 4-H, a youth empowerment
organization primarily in the United States.*

The United Nations has numerous development programs, one of them being youth empowerment programs. The United Nations provides support to national policy development surrounding empowerment within the five regions. They do this by providing evidence-based policy guidance and programmatic support by promoting the active participation of youth in society. The UNDP

promotes inclusive youth participation in effective and democratic governance, economic empowerment of youth, strengthened youth engagement in building resilience in their communities, inclusion of youth in the future development agenda, including through consultations and discussions. The United Nations youth empowerment programs examine all four dimensions of youth empowerment and seeks to improve all of them.

USAID has youth empowerment programs set up around the world that are aimed at civic engagement, access to resources and opportunities for education and employment.

GOVERNMENT INVOLVEMENT IN EMPOWERMENT

Youth empowerment is often addressed as a gateway to intergenerational equity, civic engagement and democracy building. Local, state, provincial, regional, national, and international government agencies and nonprofit community-based organizations provide programs centered on youth empowerment. Activities involved therein may focus on youth-led media, youth rights, youth councils, youth activism, youth involvement in community decision-making, and other methods.

Each major political party in the United States, including the Republicans, the Democrats, and the Green Party, as well as several major European, African, South American (Peru), and Australian political parties have statements supporting youth empowerment. Youth empowerment is also a central tenet of the United Nations Convention on the Rights of the Child, which every country in the world (minus the United States and South Sudan) has signed into law.

UNITED STATES

Youth empowerment occurs in homes, at schools, through youth organizations, government policy-making and community organizing campaigns. Major structural activities where youth empowerment happens throughout society include community decision-making, organizational planning, and education reform.

Educational activities that cite youth empowerment as an aim include student-centered learning, popular education, and service learning. Free schools and youth-led media organizations often state their intention to empower youth, as well as youth voice, community youth development, and youth leadership programs. Youth empowerment is studied by a variety of scholars including Shawn Ginwright, Henry Giroux, Barry Checkoway, Mike Males and Marc A. Zimmerman. Their research is highlighted by advocacy from notable activists such as William Upski Wimsatt, Alex Koroknay-Palicz, Salome Chasnoff and Adam Fletcher.

REPUBLIC OF IRELAND

In 2002 Comhairle na nÓg was established in each local authority area as part of the National Children's strategy. Comhairle na nÓg is Irish for Youth Council. These councils are encouraged to include the participation of young people from all walks of life and to tackle local issues affecting young people. It is run by the local county or city councils under the Office of the Minister for Children and Youth Affairs. It is a recognized political organisation by the Irish Government. An extension of Comhairle na nÓg is the Comhairle na nÓg National Executive. The National Executive has one "youth councillor" from every Comhairle na nÓg and deal with issues important to young people. These issues are nominated by young people themselves at an AGM every two years. The Comhairle na nÓg National Executive has the opportunity to express there views in a form of a researched report, ad-campaign, conferences, seminars and to put those views to policy makers.

COMMONWEALTH

The 53 member countries of the Commonwealth of Nations have all signed up to the Commonwealth Plan of Action for Youth Empowerment (2007–2015). The Plan of Action underpins the work of the Commonwealth Youth Programme (CYP). On the Commonwealth definition, "Young people are empowered when they acknowledge that they have or can create choices in life, are aware of the implications of those choices, make an informed decision freely, take action based on that decision and accept responsibility for the consequences of those actions. Empowering young people means creating and supporting the enabling conditions under which young people can act on their own behalf, and on their own terms, rather than at the direction of others."

The Plan of Action for Youth Empowerment was developed by the Commonwealth Secretariat, working closely with Ministers of Youth and young people themselves. It encourages youth mainstreaming and contains thirteen action points for governments. The first of these is: "Develop and implement measures to promote the economic enfranchisement of young people" through a range of measures ranging from micro- credit and entrepreneurship education through to reviewing macro-economic planning and trade regimes and how they affect young people. Other action points address gender equality, HIV/AIDS, education, the environment, youth participation in decision-making, and democracy and human rights.

BENEFITS OF EMPOWERMENT

When youth participate in established empowerment programs they see a variety of benefits. The practices of youth involvement and empowerment become embedded within the organizational culture and the community culture. Adults and organizations also benefit from empowerment programs. The both become more connected and responsive to youth in the community, which leads to program improvements as well as increased participation from youth.

CRITIQUES OF YOUTH EMPOWERMENT

One major critique of youth empowerment is that most programs take a risk-focused approach. There has been a major emphasis on what is going wrong for youth in their lives rather than what goes right. This portrays young people as a problem that need to be fixed, and displays the process of development as a process of overcoming risk. This may deter youth from joining youth development programs. The risked-based model can obscure the fact that adolescence is a time when young people master skills and concepts.

Chapter 13
Scientific and Technological Developments in India

This Chapter is about modern science in India. For Indian inventions, see List of Indian inventions, and for historical development of science and technology in India, History of science and technology in India. India's recent developments in the field of Telecommunication and Information technology can be found in Communications in India and Information technology in India.

Vikram Sarabhai—a physicist considered to be 'the father of India's space program'— was instrumental in the creation of both the Indian Space Research Organisation and the Physical Research Laboratory (Ahemadabad).

Jawaharlal Nehru, the first Prime Minister of India (office: 15 August 1947 – 27 May 1964), initiated reforms to promote higher education, science, and technology in India. The Indian Institutes of Technology – conceived by a 22-member committee of scholars and entrepreneurs in order to promote technical education – was inaugurated on 18 August 1951 at Kharagpur in West Bengal by the minister of education Maulana Abul Kalam Azad. More IITs were soon opened in Bombay, Madras, Kanpur and Delhi as well in the late 1950s and early 1960s. Beginning in the 1960s, close ties with the Soviet Union enabled the Indian Space Research Organisation to rapidly develop the Indian space program and advance nuclear power in India even after the first nuclear test explosion by India on 18 May 1974 at Pokhran.

India accounts for about 10% of all expenditure on research and development in Asia and the number of scientific publications grew by 45% over the five years to 2007. However, according to India's science and technology minister, Kapil Sibal, India is lagging in science and technology compared to developed countries. India has only 140 researchers per 1,000,000 population, compared to 4,651 in the United States. India invested US$3.7 billion in science and technology in 2002–2003. For comparison, China

invested about four times more than India, while the United States invested approximately 75 times more than India on science and technology. The highest-ranked Indian university for engineering and technology in 2014 was the Indian Institute of Technology Bombay at number 16; natural science ranks lower. One study argued that Indian science did not suffer from lack of funds but from unethical practices, the urge to make illegal money, misuse of power, frivolous publications and patents, faulty promotion policies, victimisation for speaking against wrong or corrupt practices in the management, sycophancy, and brain drain.

While India has increased its output of scientific papers fourfold between 2000 and 2015 overtaking Russia and France in absolute number of papers per year, that rate has been exceeded by China and Brazil; Indian papers generate fewer cites than average, and relative to its population it has few scientists.

1947–1967

The office of the Hijli Detention Camp (photographed September 1951) served as the first academic building of IIT Kharagpur.

Jawaharlal Nehru aimed "to convert India's economy into that of a modern state and to fit her into the nuclear age and do it quickly." Nehru understood that India had not been at the forefront of the Industrial Revolution, and hence made an effort to promote higher education, and science and technology in India.

Nehru's Planning Commission (1950) fixed investment levels, prescribed priorities, divided funds between agriculture and industry, and divided resources between the state and the federal governments. The result of the efforts between 1947–1962 saw the area under irrigation increase by 45 million acres (180,000 km^2), food production rise by 34 million metric tons, installed power generating capacity increase by 79 million kilowatts, and an overall increase of 94 percent in industrial production. The enormous population rise, however, would balance the gains made by Nehru. The economically beleaguered country was nevertheless able to build a large scientific workforce, second in numbers only to that of the United States and the Soviet Union.

Education – provided by the government of India – was free and compulsory up to the Age of 14. More emphasis was paid to the enhancement of vocational and technical skills. J. P. Naik, member-secretary of the Indian Education Commission, commented on the educational policies of the time:

The main justification for the larger outlay on educational reconstruction is the hypothesis that education is the most important single factor that leads to economic growth [based on] the development of science and technology.

India's first reactor (Apsara) and a plutonium reprocessing facility, as photographed by a US satellite on 19 February 1966.

On 18 August 1951 the minister of education Maulana Abul Kalam Azad, inaugurated the Indian Institute of Technology at Kharagpur in West Bengal. Possibly modeled after the Massachusetts Institute of Technology these institutions were conceived by a 22-member committee of scholars and entrepreneurs under the chairmanship of N.R. Sarkar.

The Sino-Indian war (1962) came as a rude awakening to Nehru's military preparedness. Military cooperation with the Soviet Union – partially aimed at developing advanced military technology – was pursued during the coming years. Defence Research and Development Organisation was formed in 1958.

Radio broadcasting was initiated in 1927 but became state responsibility only in 1930. In 1937 it was given the name *All India Radio* and since 1957 it has been called *Akashvani*. Limited duration of television programming began in 1959, and complete broadcasting followed in 1965.

The Indian Government acquired the EVS EM computers from the Soviet Union, which were used in large companies and research laboratories. Tata Consultancy Services – established in 1968 by the Tata Group – were the country's largest software producers during the 1960s.

1967–1987

The roots of nuclear power in India lie in early acquisition of nuclear reactor technology from a number of western countries, particularly the American support for the Tarapur Atomic Power Station and Canada's CANDU reactors. The peaceful policies of Mohandas Karamchand Gandhi may have delayed the inception of nuclear technology in India.

Stanley Wolpert (2008) describes the measures taken by the Indian government to increase agricultural output:

It was not until the late 1960s that chemical fertilisers and high-yield food seeds brought the Green Revolution to India. The results were mixed, as many poor or small farmers were unable to afford the seeds or the risks involved in the new technology. Moreover, as rice and, especially, wheat production increased, there was a corresponding decrease in other grain production. Farmers who benefited most

were from the major wheat-growing areas of Haryāna, Punjab, and western Uttar Pradesh.

The Indian space program received only financial support from the Soviet Union, which helped the Indian Space Research Organisation achieve aims such as establishing the Thumba Equatorial Rocket Launching Station, launching remote sensing satellites, developing India's first satellite— Aryabhatta, and sending astronauts into the space. India sustain its nuclear program during the aftermath of Operation Smiling Buddha – India's first nuclear tests.

Though the roots of the Steel Authority of India Ltd. lie in Hindustan Steel Private Limited (1954), the events leading up to the formation of the modern avatar are described below:

The Ministry of Steel and Mines drafted a policy statement to evolve a new model for managing industry. The policy statement was presented to the Parliament on December 2, 1972. On this basis the concept of creating a holding company to manage inputs and outputs under one umbrella was mooted. This led to the formation of Steel Authority of India Ltd. The company, incorporated on January 24, 1973 with an authorised capital of Rs. 2000 crore, was made responsible for managing five integrated steel plants at Bhilai, Bokaro, Durgapur, Rourkela and Burnpur, the Alloy Steel Plant and the Salem Steel Plant. In 1978 SAIL was restructured as an operating company.

In 1981, the Indian Antarctic Programme was started when the first Indian Expedition was flagged off for Antarctica from Goa. More missions were subsequently sent each year to India's base Dakshin Gangotri.

1987–PRESENT

Infosys Media Centre in Bangalore.

Indian agriculture benefited from the developments made in the fields of Biotechnology, for which a separate department was created in 1986 under the Ministry of Science and Technology. Both the Indian private sector and the government have invested in the medical and agricultural applications of biotechnology. Massive Biotech parks were established in India while the government provided tax deduction for research and development under biotechnological firms.

The Indian economy underwent economic reforms in 1991, leading to a new era of globalisation and international economic integration. Economic growth of over 6% annually was seen between 1993–2002. Same year a new permanent Antarctic base Maitri was founded and continues to remain in operation till date. On 25 June 2002 India and the European Union agreed to bilateral cooperation in the field of science and technology. A joint EU-India group of scholars was formed on 23 November 2001 to further promote joint research and development. India holds observer status at CERN while a joint India-EU Software Education and Development Centre is due at Bangalore.

Certain scientists and activists, such as MIT systems scientist VA Shiva Ayyadurai, blame caste for holding back innovation and scientific research in India, making it difficult to sustain progress while regressive social organisation prevails. In addition, corruption and inefficiencies in the research sector and have resulted in corruption scandals and undermine innovation initiatives.

Bangalore is considered to be the technological capital of India. IT, Biotechnology, Aerospace, Nuclear Science, Manufacturing Technology, Automobile Engineering, Chemical Engineering, Ship Building, Space science, Electronics, Computer Science and other Medical Science related research and development are going on a large scale in the country. The southern part of India is responsible for the lion share of technology and advancements the country has made. The golden triangle of IT and technology (Hyderabad, Bangalore and Chennai) forms the backbone of Indian Manufacturing, R&D and Science and Technology.

SPACE EXPLORATION MARS

ORBIT MISSION

The Mars Orbiter Mission *MOM*, also called *Mangalyaan* was launched on 5 November 2013 by the Indian Space Research Organisation (ISRO) [1] It is India's first interplanetary mission making ISRO the fourth space agency to reach Mars, after the Soviet space program, NASA, and the European Space Agency and the first Asian nation to reach Mars orbit, and the first nation to do so on its first attempt.

CHANDRAYAAN-1

On 18 November 2008, the Moon Impact probe was released from Chandrayaan-1 at a height of 100 km (62 mi). During its 25-minute decent, Chandra's Altitudinal Composition Explorer (CHACE) recorded evidence of water in 650 mass spectra readings gathered during this time. On 24 September 2009 *Science* journal reported that the Chandrayaan-1 had detected water ice on the Moon.

THIRTY METER TELESCOPE

The Thirty Meter Telescope (TMT) is a planned, eighteen story, astronomical observatory and extremely large telescope to be built on the summit of Mauna Kea in the state of Hawaii. The TMT is designed for near-ultraviolet to mid-infrared (0.31 to 28 μm wavelengths) observations, featuring adaptive optics to assist in correcting image blur. The TMT will be at the highest altitude of all the proposed ELTs. The telescope has government-level support from several R&D spending nations: China, Japan, Canada and India. The observatory and telescope are expected to be operational on Mauna Kea by 2024.

Chapter 14
Women's Empowerment, Safety and Development

Women's Empowerment, referring to the empowerment of women in our present society, has become a significant topic of discussion in regards to development and economics. It can also point to approaches regarding other trivialized genders in a particular political or social contexts.

While often interchangeably used, the more comprehensive concept of gender empowerment refers to people of any gender, stressing the distinction between biological sex and gender as a role. It thereby also refers to other marginalized genders in a particular political or social context.

METHODS TO EMPOWER WOMEN

Land rights offer a key way to economically empower women, giving them the confidence they need to tackle gender inequalities. Often, women in developing nations are legally restricted from their land on the sole basis of gender. Having a right to their land gives women a sort of bargaining power that they wouldn't normally have; in turn, they gain the ability to assert themselves in various aspects of their life, both in and outside of the home. Another way to provide women empowerment is to allocate responsibilities to them that normally belong to men. When women have economic empowerment, it is a way for others to see them as equal members of society. Through this, they achieve more self-respect and confidence by their contributions to their communities. Simply including women as a part of a community can have sweeping positive effects. In a study conducted by Bina Agarwal, women were given a place in a forest conservation group. Not only did this drive up the efficiency of the group, but the women gained incredible self-esteem while others, including men, viewed them with more respect. Participation, which can be seen and gained in a variety of ways, has been argued to be the most beneficial form of gender empowerment. Political participation, be it the ability to vote and voice opinions, or the ability to run for office with a fair chance of being elected, plays a huge role in the empowerment of peoples. However, participation is not limited to the realm of politics.

It can include participation in the household, in schools, and the ability to make choices for oneself. It can be said that these latter participations need to be achieved before one can move onto broader political participation. When women have the agency to do what they want, a higher equality between men and women is established. It is argued that microcredit also offers a way to provide empowerment for women. Governments, organizations, and individuals have caught hold of the lure of microfinance. They hope that lending money and credit allows women to function in business and society, which in turn empowers them to do more in their communities. One of the primary goals in the foundation of microfinance was women empowerment. Loans with low interest rates are given to women in developing communities in hopes that they can start a small business and provide for her family. It should be said, however, that the success and efficiency of microcredit and microloans is controversial and constantly debated.

THE INTERNET AS A TOOL OF EMPOWERMENT

The growing access of the web in the late 20th century has allowed women to empower themselves by using various tools on the Internet. With the introduction of the World Wide Web, women have begun to use social networking sites like Facebook and Twitter for online activism. Through online activism, women are able to empower themselves by organizing campaigns and voicing their opinions for equality rights without feeling oppressed by members of society. For example, on May 29, 2013, an online campaign started by 100 female advocates forced the leading social networking website, Facebook, to take down various pages that spread hatred about women.

In recent years, blogging has also become a powerful tool for the educational empowerment of women. According to a study done by the University of California, Los Angeles, medical patients who read and write about their disease are often in a much happier mood and more knowledgeable than those who do not. By reading others' experiences, patients can better educate themselves and apply strategies that their fellow bloggers suggest.

With the easy accessibility and affordability of e-learning (electronic learning), women can now study from the comfort of their homes. By empowering themselves educationally through new technologies like e-learning, women are also learning new skills that will come in handy in today's advancing globalized world.

BARRIERS

Many of the barriers to women's empowerment and equity lie ingrained in cultural norms. Many women feel these pressures, while others have become accustomed to being treated inferior to men. Even if men, legislators, NGOs, etc. are aware of the benefits women's empowerment and participation can have, many are scared of disrupting the status quo and continue to let societal norms get in the way of development.

Research shows that the increasing access to the internet can also result in an increased exploitation of women. Releasing personal information on websites has put some women's personal safety at risk. In 2010, Working to Halt Online Abuse stated that 73% of women were victimized through such sites. Types of victimization include cyber stalking, harassment, online pornography, and flaming. Sexual harassment in particular is a large barrier for women in the workplace. It appears in almost all industries, but is most notable in the following: business, trade, banking and finance, sales and marketing, hospitality, civil service, and education, lecturing and teaching According to the International Labour Organisation (ILO), sexual harassment is a clear form of gender discrimination based on sex, a manifestation of unequal power relations between men and women. Furthermore, the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) is urging for increased measures of protection for women against sexual harassment and violence in the workplace. 54% (272) had experienced some form of workplace sexual harassment. 79% of the victims are women; 21% were men.

Recent studies also show that women face more barriers in the workplace than do men. Gender-related barriers involve sexual harassment, unfair hiring practices, career progression, and unequal pay where women are paid less than men are for performing the same job. When taking the median earnings of men and women who worked full- time, year-round, government data from 2014 showed that women made $0.79 for every dollar a man earned. The average earnings for working mothers came out to even less—$0.71 for every dollar a father made, according to a 2014 study conducted by the National Partnership for Women and Children. While much of the public discussion of the "wage gap" has focused around women getting equal pay for the same work as their male peers, many women

struggle with what is called the "pregnancy penalty." The main problem is that it is difficult to measure, but some experts say that the possibility of having a baby can be enough for employers to push women back from their line. Therefore, women are put in a position where they need to make the decision of whether to maintain in the workforce or have children. This problem has sparked the debate over maternity leave in the United States.

However, despite the struggle for equal pay in the United States, the tech industry has made progress in helping to encourage equal pay across gender. In March 2016, tech career website Dice released a study of more than 16,000 tech professionals that found that when you compare equivalent education, experience and position, there is no pay gap—and hasn't been for the last six years. This new industry is paving a way for other companies to do the same. However, this industry also struggles to employ women in executive positions. This is partially due to the barrier of sexual harassment and pregnancy that was aforementioned.

Such barriers make it difficult for women to advance in their workplace or receive fair compensation for the work they provide.

MEASUREMENT

Women empowerment can be measured through the Gender Empowerment Measure (GEM), which shows women's participation in a given nation, both politically and economically. GEM is calculated by tracking "the share of seats in parliament held by women; of female legislators, senior officials and managers; and of female profession and technical workers; and the gender disparity in earned income, reflecting economic independence." It then ranks countries given this information. Other measures that take into account the importance of female participation and equality include: the Gender Parity Index and the Gender-related Development Index (GDI).

IN INDIA

There are still uneducated and poor town ladies fiscally reliant on their relatives, despite the fact that they are persevering and have their own particular capacities to be monetarily self-subordinate. Still, they won't land any great position and no money- related backing to begin their own particular family unit businesses and additionally fare well.

ROLE IN SOCIETIES

Entire nations, businesses, communities, and groups can benefit from the implementation of programs and policies that adopt the notion of women empowerment. Empowerment is one of the main procedural concerns when addressing human rights and development. The Human Development and Capabilities Approach, the Millennium Development Goals, and other credible approaches/goals point to empowerment and participation as a necessary step if a country is to overcome the obstacles associated with poverty and development.

IN AFRICA

In the world, Africa has the biggest gender-related issues. Seeing gender equality still remains a lofty dream in Africa but women empowerment is still fought for. At the January heads of state summit, the AU decided to add its weight to the fighting gender inequity cause, declaring 2015 as the "Year of Women's Empowerment and Development towards Africa's Agenda 2063. It is the first time the

AU has done so since its formation over a decade ago. Though women have made a huge progress in promoting themselves economically, they still face problems applying for jobs, owning land and inheriting property. "The leaders need to know that the young women and girls are here and they are not a statistic. The leaders need to create time to meet, dialogue, listen and then act. The UN working with other organisations are working hard to improve gender equality and make the lives of the African women easier.

ECONOMIC BENEFITS

Most women across the globe rely on the informal work sector for an income. If women were empowered to do more and be more, the possibility for economic growth becomes apparent. Empowering women in developing countries is essential to reduce global poverty since women represent most of the world's poor population. Eliminating a significant part of a nation's work force on the sole basis of gender can have detrimental effects on the economy of that nation. In addition, female participation in counsels, groups, and businesses is seen to increase efficiency. For a general idea on how an empowered woman can impact the economy, a study of Fortune 500 companies found that "those with more women board directors had significantly higher financial returns, including 53 per cent higher returns on equity, 42 per cent higher returns on sales and 67 per cent higher returns on invested capital (OECD, 2008)." This study shows the impact women can have on the overall economic benefits of a company. If implemented on a global scale, the inclusion of women in the formal workforce (like a Fortune 500 company) can increase the economic output of a nation. Therefore, women can also help businesses grow and economies prosper if they have, and if they are able to use, the right knowledge and skills in their employment.

Chapter 15
Rural Development and
Grassroot Level Entrepreneurship

Rural Development is the process of improving the quality of life and economic well- being of people living in relatively isolated and sparsely populated areas.

Rural development has traditionally centered on the exploitation of land-intensive natural resources such as agriculture and forestry. However, changes in global production networks and increased urbanization have changed the character of rural areas. Increasingly tourism, niche manufacturers, and recreation have replaced resource extraction and agriculture as dominant economic drivers. The need for rural communities to approach development from a wider perspective has created more focus on a broad range of development goals rather than merely creating incentive for agricultural or resource based businesses. Education, entrepreneurship, physical infrastructure, and social infrastructure all play an important role in developing rural regions. Rural development is also characterized by its emphasis on locally produced economic development strategies. In contrast to urban regions, which have many similarities, rural areas are highly distinctive from one another. For this reason there are a large variety of rural development approaches used globally.

Vivekananda Institute, Mysore is a center for Rural Development studies

DEVELOPMENT ACTIONS

Rural development actions are mainly and mostly to development aim for the social and economic development of the rural areas.

Rural development programs are usually top-down from the local or regional authorities, regional development agencies, NGOs, national governments or international development organizations. But then, local populations can also bring about endogenous initiatives for development. The term is not limited to the issues for developing countries. In fact many of the developed countries have very active rural development programs. The main aim of the rural government policy is to develop the undeveloped villages. This was designed by Eric Kiplagat.

Rural development aims at finding the ways to improve the rural lives with participation of the rural people themselves so as to meet the required need of the rural area. The outsider may not understand the setting, culture, language and other things prevalent in the local area. As such, general people themselves have to participate in their sustainable rural development. In developing countries like Nepal, India, Bangladesh, integrated development approaches are being followed up. In this context, many approaches and ideas have been developed and followed up, for instance, bottom- up approach, PRA- Participatory Rural Appraisal, RRA- Rapid Rural Appraisal etc.

RURAL DEVELOPMENT AGENCIES

- Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA) Agricultural and rural information provider
- USDA Rural Development, an agency of the United States Department of Agriculture
- European Network for Rural Development[Amaram M. C., FaithGem].
- England Rural Development Programme by DEFRA
- Agricultural Development & Training Society, India
- Tipperary Institute, Ireland
- Azerbaijan Rural Investment Project in Azerbaijan
- Nimbkar Agricultural Research Institute, India

RECOGNITION JINDAL

PRIZE

Sitaram Jindal Foundation, India has instituted an award Jindal Prize in which Rural Development and Poverty Alleviation is one of five categories. Prize will be awarded to those individuals or organizations rendering significant service to rural development and poverty alleviation without any profit motive. Prizes of Rs. one crore in each category will be awarded annually.

Chapter 16
Urbanization and Planning for Smart Cities and Towns

Urbanization is a population shift from rural to urban areas, "the gradual increase in the proportion of people living in urban areas", and the ways in which each society adapts to the change. It is predominantly the process by which towns and cities are formed and become larger as more people begin living and working in central areas. The United Nations projected that half of the world's population would live in urban areas at the end of 2008. It is predicted that by 2050 about 64% of the developing world and 86% of the developed world will be urbanized. That is equivalent to approximately 3 billion urbanites by 2050, much of which will occur in Africa and Asia. Notably, the United Nations has also recently projected that nearly all global population growth from 2016 to 2030 will be absorbed by cities, about 1.1 billion new urbanites over the next 14 years.

Urbanization is relevant to a range of disciplines, including geography, sociology, economics, urban planning, and public health. The phenomenon has been closely linked to modernization, industrialization, and the sociological process of rationalization. Urbanization can be seen as a specific condition at a set time (e.g. the proportion of total population or area in cities or towns) or as an increase in that condition over time. So urbanization can be quantified either in terms of, say, the level of urban development relative to the overall population, or as the rate at which the urban proportion of the population is increasing. Urbanization creates enormous social, economic and environmental changes, which provide an opportunity for sustainability with the "potential to use resources more efficiently, to create more sustainable land use and to protect the biodiversity of natural ecosystems."

Urbanization is not merely a modern phenomenon, but a rapid and historic transformation of human social roots on a global scale, whereby predominantly rural culture is being rapidly replaced by predominantly urban culture.

The first major change in settlement patterns was the accumulation of hunter- gatherers into villages many thousand years ago. Village culture is characterized by common bloodlines, intimate relationships, and communal behavior whereas urban culture is characterized by distant bloodlines, unfamiliar relations, and competitive behavior. This unprecedented movement of people is forecast to continue and intensify during the next few decades, mushrooming cities to sizes unthinkable only a century ago.

Today, in Asia the urban agglomerations of Osaka, Karachi, Jakarta, Mumbai, Shanghai, Manila, Seoul and Beijing are each already home to over 20 million people, while Delhi and Tokyo are forecast to approach or exceed 40 million people each within the coming decade. Outside Asia, Mexico City, São Paulo, New York, Lagos, Los Angeles, and Cairo are, or soon will be, home to over 20 million people.

HISTORY

From the development of the earliest cities in Mesopotamia and Egypt until the 18th century, an equilibrium existed between the vast majority of the population who engaged in subsistence agriculture in a rural context, and small centres of populations in the towns where economic activity consisted primarily of trade at markets and manufactures on a small scale. Due to the primitive and relatively stagnant state of agriculture throughout this period the ratio of rural to urban population remained at a fixed equilibrium, though a significant increase in the persentage of the global urban population can still be traced in the 1st millennium BCE.

With the onset of the agricultural and industrial revolution in the late 18th century this relationship was finally broken and an unprecedented growth in urban population took place over the course of the 19th century, both through continued migration from the countryside and due to the tremendous demographic expansion that occurred at that time. In England the proportion of the population living in cities jumped from 17% in 1801 to 72% in 1891 (for other countries the figure was: 37% in France, 41% in Prussia and 28% in the United States).
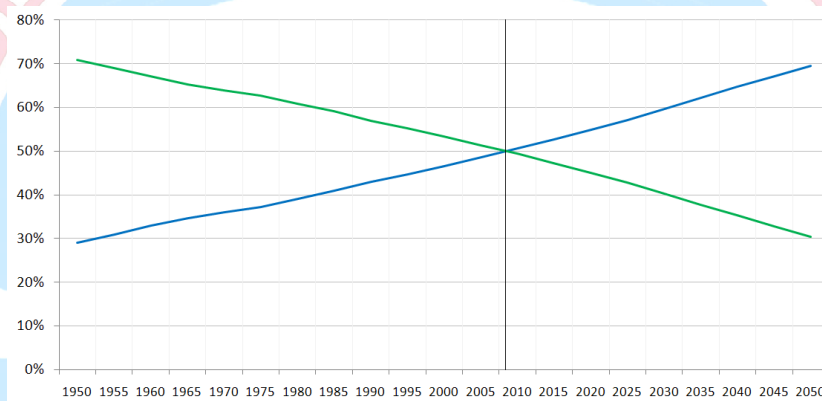
Historical shift of the urban/rural population ratio.

As labourers were freed up from working the land due to higher agricultural productivity they converged on the new industrial cities like Manchester and Birmingham which were experiencing a boom in commerce, trade and industry. Growing trade around the world also allowed cereals to be imported from North America and refrigerated meat from Australasia and South America. Spatially, cities also expanded due to the development of public transport systems, which facilitated commutes of longer distances to the city centre for the working class.

Urbanization rapidly spread across the Western world and, since the 1950s, it has begun to take hold in the developing world as well. At the turn of the 20th century, just 15% of the world population lived in cities. According to the UN the year 2007 witnessed the turning point when more than 50% of the world population were living in cities, for the first time in human history.

Yale University in June 2016 published urbanization data from the time period 3700 BC to 2000 AD, the data was used to make a video showing the development of cities on the world during the time period.

MOVEMENT

As more and more people leave villages and farms to live in cities, urban growth results. The rapid growth of cities like Chicago in the late 19th century, Tokyo in the mid 20th, and Delhi in the 21st century can be attributed largely to rural-urban migration. This kind of growth is especially commonplace in developing countries. This phenomenal growth can be attributed not just to the lure of economic opportunities, but also to loss or degradation of farmland and pastureland due to development, pollution, land grabs, or conflict; the attraction and anonymity of hedonistic pleasures of urban areas; proximity and ease of mass transport; and the opportunity to assert individualism.

Percentage of Population Living in Urban Areas by Region, 1950-2050.
Source: UN World Urbanization Prospects, 2007.
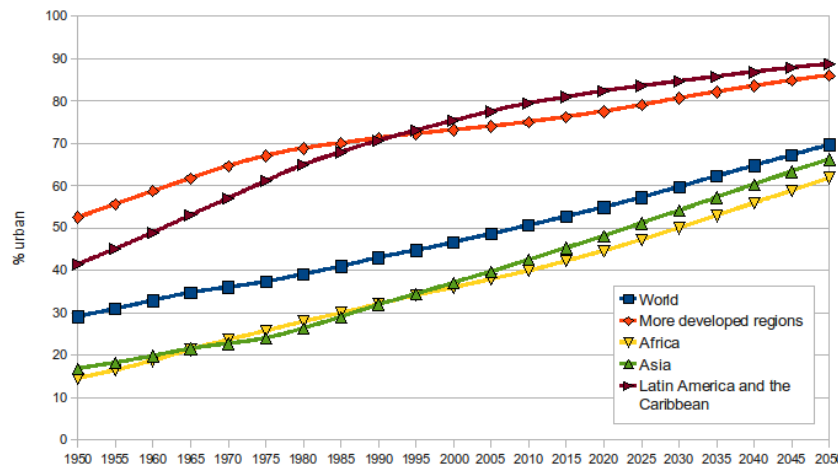
Urbanization results from both industrialization (increasing efficiency among farmers) and population growth.

Urban centres are seen by many as an opportunity to "escape traditional patriarchy and experience new freedoms": this includes greater access to education, health, and employment. However, for many who seek these opportunities the opposite occurs, resulting in extreme poverty, exclusion, vulnerability and marginalization due to urban sprawl where "urban land is expanding much faster than the urban population". This results in a strain on the urban area: the urban poor are forced to create slums, and then ultimately face unhealthy living conditions without access to the very opportunities they sought in the first place. Urbanization isn't just developing cities street but it's also redeveloping a people and a culture by displacement and economic hardship. The United Nations Population Fund (UNFPA) estimated that residents in slums had risen to about 863 million in 2012 from over 650 million in 1990.

The rapid urbanization of the world's population over the 20th century is described in the 2005 Revision of the UN World Urbanization Prospects report. The global proportion of urban population rose dramatically from 13% (220 million) in 1900, to 29% (732 million) in 1950, and 49% (3.2 billion) in 2005. The same report projected that the figure is likely to rise to 60% (4.9 billion) by 2030. It is expected that from 2007 to 2050, the global urban population will nearly double (from 3.3 billion to 6.4 billion), absorbing all population growth and as well as inflows from rural areas.

According to the UNFPA State of the World Population 2007 report, sometime in the middle of 2007, the majority of people worldwide lived in towns or cities, for the first time in history; this is referred to as the arrival of the "Urban Millennium" or the "tipping point". In future it is estimated 93% of urban growth will occur in developing nations, with 80% of urban growth occurring in Asia and Africa.

Urbanization rates vary between countries. The United States and United Kingdom have a far higher urbanization level than India, Swaziland and Niger, but a far slower annual urbanization rate, since much less of the population is living in a rural area. Some nations make a distinction between suburban and urban areas, while others do not; indeed, human conditions within such areas differ greatly.
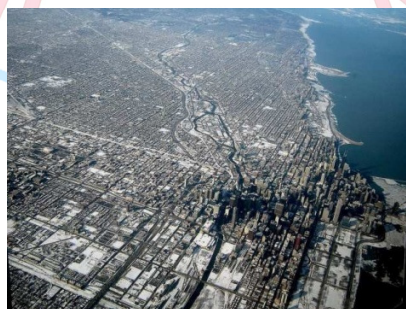

Centre of São Paulo, one of the largest metropolises in the world.

CAUSES
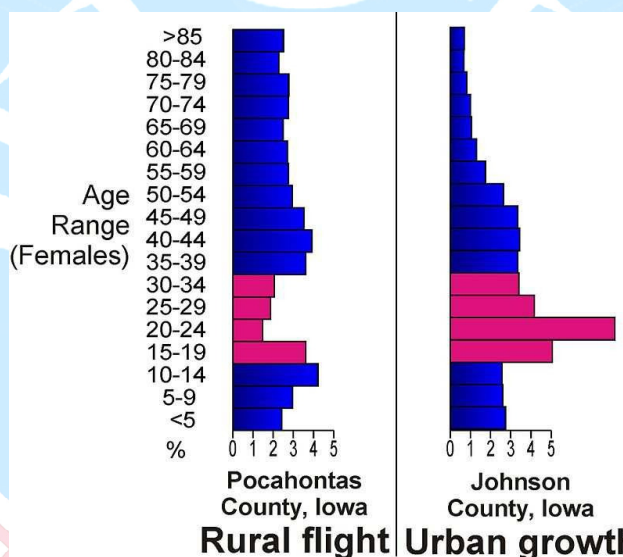
Population age comparison between rural Pocahontas County, Iowa and urban Johnson County, Iowa, illustrating the flight of young adults (red) to urban centres in Iowa.

The City of Chicago, Illinois is an example of the early American grid system of development. The grid is enforced even on uneven topography.

Urbanization occurs as individual, commercial flight, social and government action reduce the time and expense of commuting and transportation and improve opportunities for jobs, education, housing, and transportation. Living in a city can provide opportunities of proximity, diversity, and marketplace competition. As against this, there may be alienation issues, stress, increased cost of living, and negative social aspects that result from mass marginalization. Suburbanization, which is happening in the cities of the largest developing countries, may be regarded as an attempt to balance these negative aspects of urban life while still allowing access to the large extent of shared resources.

In cities, money, services, wealth and opportunities are centralized. Many rural inhabitants come to the city to seek their fortune and alter their social position. Businesses, which provide jobs and exchange capital, are more concentrated in urban areas. Whether the source is trade or tourism, it is also through the ports or banking systems, commonly located in cities, that foreign money flows into a country.

Many people move into cities for the economic opportunities, but this does not fully explain the very high recent urbanization rates in places like China and India. Rural flight is a contributing factor to urbanization. In rural areas, often on small family farms or collective farms in villages, it has historically been difficult to access manufactured goods, though the relative overall quality of life is very subjective, and may certainly surpass that of the city. Farm living has always been susceptible to unpredictable environmental conditions, and in times of drought, flood or pestilence, survival may become extremely problematic.

In a New York Times article concerning the acute migration away from farming in Thailand, life as a farmer was described as "hot and exhausting". "Everyone says the farmer works the hardest but gets the least amount of money". In an effort to counter this impression, the Agriculture Department of Thailand is seeking to promote the impression that farming is "honorable and secure".

However, in Thailand, urbanization has also resulted in massive increases in problems such as obesity. City life, especially in modern urban slums of the developing world, is certainly hardly immune to pestilence or climatic disturbances such as floods, yet continues to strongly attract migrants. Examples of this were the 2011 Thailand floods and 2007 Jakarta flood. Urban areas are also far more prone to violence, drugs, and other urban social problems. In the United States, industrialization of agriculture has negatively affected the economy of small and middle-sized farms and strongly reduced the size of the rural labour market.

Particularly in the developing world, conflict over land rights due to the effects of globalization has led to less politically powerful groups, such as farmers, losing or forfeiting their land, resulting in obligatory migration into cities. In China, where land acquisition measures are forceful, there has been far more extensive and rapid urbanization (54%) than in India (36%), where peasants form militant groups (e.g. Naxalites) to oppose such efforts. Obligatory and unplanned migration often results in rapid growth of slums. This is also similar to areas of violent conflict, where people are driven off their land due to violence. Bogota, Colombia is one example of this.

Cities offer a larger variety of services, including specialist services not found in rural areas. These services requires workers, resulting in more numerous and varied job opportunities. Elderly people may be forced to move to cities where there are doctors and hospitals that can cater for their health needs. Varied and high quality educational opportunities are another factor in urban migration, as well as the opportunity to join, develop, and seek out social communities.

Urbanization also creates opportunities for women that are not available in rural areas. This creates a gender-related transformation where women are engaged in paid employment and have access to education. This may cause fertility to decline. However, women are sometimes still at a disadvantage due to their unequal position in the labour market, their inability to secure assets independently from male relatives and exposure to violence.

People in cities are more productive than in rural areas. An important question is whether this is due to agglomeration effects or whether cities simply attract those who are more productive. Economists have recently shown that there exists a large productivity gain due to locating in dense agglomerations. It is thus possible that agents locate in cities in order to benefit from these agglomeration effects.

DOMINANT CONURBATION

The dominant conurbation(s) of a country can benefit to a greater extent from the same things cities offer, making them magnets for not just the non-urban population, but also urban and suburban population from other cities. Dominant conurbations are quite often primate cities, but do not have to be. For instance Greater Manila is rather a conurbation than a city: its 20 million overall population (over 20% national population) make it very much a primate city, but Quezon City (2.7 million), the largest municipality in Greater Manila, and Manila (1.6 million), the capital, are not. A conurbation's dominance can be measured by output, wealth, and especially population, each expressed as a percentage of an entire country. Greater Seoul is one conurbation with massive dominance over South Korea, it is home to 50% of the entire national population.

Though Greater Busan-Ulsan (15%, 8 million) and Greater Osaka (14%, 18 million) exhibit strong dominance in their respective countries, yet they are losing population to their even more dominant rivals, Seoul and Tokyo respectively.

ECONOMIC EFFECTS

As cities develop, effects can include a dramatic increase and change in costs, often pricing the local working class out of the market, including such functionaries as employees of the local municipalities. For example, Eric Hobsbawm's book *The age of revolution: 1789–1848* (published 1962 and 2005) chapter 11, stated "Urban development in our period [1789–1848] was a gigantic process of class segregation, which pushed the new labouring poor into great morasses of misery outside the centres of government and business and the newly specialized residential areas of the bourgeoisie. The almost universal European division into a 'good' west end and a 'poor' east end of large cities developed in this period." This is likely due the prevailing south- west wind which carries coal smoke and other airborne pollutants downwind, making the western edges of towns preferable to the eastern ones. Similar problems now affect the developing world, rising inequality resulting from rapid urbanization trends. The drive for rapid urban growth and often efficiency can lead to less equitable urban development. Think tanks such as the Overseas Development Institute have proposed policies that encourage labor-intensive growth as a means of absorbing the influx of low-skilled and unskilled labor. One problem these migrant workers are involved with is the growth of slums. In many cases, the rural-urban low skilled or unskilled migrant workers, attracted by economic opportunities in urban areas, cannot find a job and afford housing in cities and have to dwell in slums. Urban problems, along with infrastructure developments, are also fueling suburbanization trends in developing nations, though the trend for core cities in said nations tends to continue to become ever denser. Urbanization is often viewed as a negative trend, but there are positives in the reduction of expenses in commuting and transportation while improving opportunities for jobs, education, housing, and transportation. Living in cities permits individuals and families to take advantage of the opportunities of proximity and diversity.] While cities have a greater variety of markets and goods than rural areas, infrastructure congestion, monopolization, high overhead costs, and

the inconvenience of cross-town trips frequently combine to make marketplace competition harsher in cities than in rural areas.

In many developing countries where economies are growing, the growth is often erratic and based on a small number of industries. For young people in these countries barriers exist such as, lack of access to financial services and business advisory services, difficulty in obtaining credit to start a business, and lack of entrepreneurial skills, in order for them to access opportunities in these industries. Investment in human capital so that young people have access to quality education and infrastructure to enable access to educational facilities is imperative to overcoming economic barriers.

ENVIRONMENTAL EFFECTS

The existence of Urban heat islands has become a growing concern over the years. An urban heat island is formed when industrial and urban areas produce and retain heat. Much of the solar energy that reaches rural areas is consumed by evaporation of water from vegetation and soil. In cities, where there is less vegetation and exposed soil, most of the sun's energy is instead absorbed by buildings and asphalt; leading to higher surface temperatures. Vehicles, factories and industrial and domestic heating and cooling units release even more heat. As a result, cities are often 1 to 3°C (1.8 to 5.4 °F) warmer than surrounding landscapes. Impacts also include reducing soil moisture and a reduction in reabsorption of carbon dioxide emissions.

The occurrence of eutrophication in bodies of water is another effect large urban populations have on the environment. When rain occurs in these large cities, the rain filters down the pollutants such as CO_2 and other green house gases in the air onto the ground below. Then, those chemicals are washed directly into rivers, streams and oceans, causing a decline in water quality and damaging marine ecosystems.

In his book *Whole Earth Discipline*, Stewart Brand argues that the effects of urbanization are primarily positive for the environment. First, the birth rate of new urban dwellers falls immediately to replacement rate, and keeps falling, reducing environmental stresses caused by population growth. Secondly, emigration from rural areas reduces destructive subsistence farming techniques, such as improperly implemented slash and burn agriculture.

In July 2013 a report issued by the United Nations Department of Economic and Social Affairs warned that with 2.4 billion more people by 2050, the amount of food produced will have to increase by 70%, straining food resources, especially in countries already facing food insecurity due to changing environmental conditions. The mix of changing environmental conditions and the growing population of urban regions, according to UN experts, will strain basic sanitation systems and health care, and potentially cause a humanitarian and environmental disaster.

HEALTH AND SOCIAL EFFECTS

In the developing world, urbanization does not seem to translate into a significant increase in life expectancy. Rapid urbanization has brought increased mortality from non-communicable diseases associated with lifestyle, including cancer and heart disease. Differences in mortality from contagious diseases vary depending on the particular disease.

Urban health levels are better in comparison those in rural areas on average. However, residents in poor areas such as slums and informal settlements suffer "disproportionately from disease, injury, premature death, and the combination of ill- health and poverty entrenches disadvantage over time." Many urban poor have difficulty accessing health services due to an increasing requirement to

payforthem;so people resort to less qualified and unregulated providers.

While urbanization is associated with improvements in public hygiene, sanitation and access to health care, it also entails changes in occupational, dietary and exercise patterns. It can have mixed effects on health patterns, alleviating some problems and accentuating others. For instance, in children urbanization is associated with a lower risk of under-nutrition but a higher risk of overweight. Overall, body mass index and cholesterol levels increase sharply with national income and the degree of urbanization.

Agriculturist has new studied on urbanization and globalization. Fast food is the food of chose which is causing health decline. Easier access to non-traditional foods may lead to less healthy dietary patterns. In India prevalence of diabetes in urban areas appears to be more than twice as high as in rural areas. In general, major risk factors for chronic diseases are more prevalent in urban environments.

CHANGING FORMS

Different forms of urbanization can be classified depending on the style of architecture and planning methods as well as historic growth of areas.

In cities of the developed world urbanization traditionally exhibited a concentration of human activities and settlements around the downtown area, the so-called *in- migration*. In-migration refers to migration from former colonies and similar places. The fact that many immigrants settle in impoverished city centres led to the notion of the "peripheralization of the core", which simply describes that people who used to be at the periphery of the former empires now live right in the centre.

Recent developments, such as inner-city redevelopment schemes, mean that new arrivals in cities no longer necessarily settle in the centre. In some developed regions, the reverse effect, originally called counterurbanization has occurred, with cities losing population to rural areas, and is particularly common for richer families. This has been possible because of improved communications, and has been caused by factors such as the fear of crime and poor urban environments. It has contributed to the phenomenon of shrinking cities experienced by some parts of the industrialized world.

When the residential area shifts outward, this is called suburbanization. A number of researchers and writers suggest that suburbanization has gone so far to form new points of concentration outside the downtown both in developed and developing countries such as India. This networked, poly-centric form of concentration is considered by some emerging pattern of urbanization. It is called variously exurbia, edge city (Garreau, 1991), network city (Batten, 1995), or postmodern city (Dear, 2000). Los Angeles is the best-known example of this type of urbanization. Interestingly, in the United States, this process has reversed as of 2011, with "re-urbanization" occurring as *suburban flight* due to chronically high transport costs.

Rural migrants are attracted by the possibilities that cities can offer, but often settle in shanty towns and experience extreme poverty. The inability of countries to provide adequate housing for these rural migrants is related to overurbanization, a phenomenon in which the rate of urbanization grows more rapidly that the rate of economic development, leading to high unemployment and high demand for resources. In the 1980s, this was attempted to be tackled with the urban bias theory which was promoted by Michael Lipton.

Most of the urban poor in developing countries able to find work can spend their lives in insecure, poorly paid jobs. According to research by the Overseas Development Institute pro-poor

urbanization will require labour-intensive growth, supported by labour protection, flexible land use regulation and investments in basic services.'

Urbanization can be planned urbanization or organic. Planned urbanization, i.e.: planned community or the garden city movement, is based on an advance plan, which can be prepared for military, aesthetic, economic or urban design reasons. Examples can be seen in many ancient cities; although with exploration came the collision of nations, which meant that many invaded cities took on the desired planned characteristics of their occupiers. Many ancient organic cities experienced redevelopment for military and economic purposes, new roads carved through the cities, and new parcels of land were cordoned off serving various planned purposes giving cities distinctive geometric designs. UN agencies prefer to see urban infrastructure installed before urbanization occurs. Landscape planners are responsible for landscape infrastructure (public parks, sustainable urban drainage systems, greenways etc.) which can be planned before urbanization takes place, or afterward to revitalize an area and create greater livability within a region. Concepts of control of the urban expansion are considered in the American Institute of Planners.

As the population continues to grow and urbanize at unprecedented rates, new urbanism and smart growth techniques will create a successful transition into developing environmentally, economically, and socially sustainable cities. Smart Growth and New Urbanism's principles include walkability, mixed-use development, comfortable high-density design, land conservation, social equity, and economic diversity. Mixed-use communities work to fight gentrification with affordable housing to promote social equity, decrease automobile dependency to lower use of fossil fuels, and promote a localized economy. Walkable communities have a 38% higher average GDP per capita than less walkable urban metros (Leinberger, Lynch). By combining economic, environmental, and social sustainability, cities will become equitable, resilient, and more appealing than urban sprawl that overuses land, promotes automobile use, and segregates the population economically.

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Chapter 17
Management Development

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Management Development in businesses and other organizations, including not-for- profit organizations and government bodies, refers to the individuals who set the strategy of the organization and coordinate the efforts of employees (or volunteers, in the case of some voluntary organizations) to accomplish objectives by using available human, financial and other resources efficiently and effectively. Resourcing encompasses the deployment and manipulation of human resources, financial resources, technological resources, natural resources and other resources.
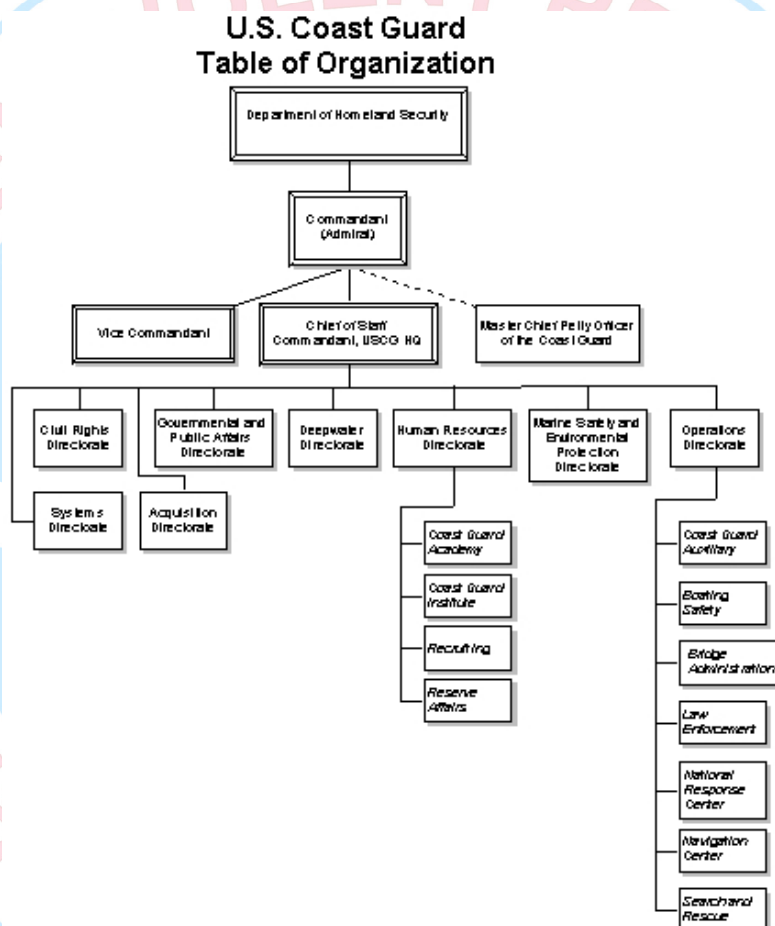
An organization chart for the United States Coast Guard shows the hierarchy of managerial roles in that organization.

Management is also an academic discipline, a social science whose objective is to study social organization and organizational leadership. Management is studied at colleges and universities; some important degrees in management are the Bachelor of Commerce (B.Com.) and Master of Business Administration (M.B.A.) and, for the public sector, the Master of Public Administration (MPA) degree. Individuals who aim at becoming management researchers or professors may complete the Doctor of Business Administration (DBA) or the PhD in business administration or management.

There are three levels of managers, which are typically organized in a hierarchical, pyramid structure. Senior managers, such as the Board of Directors, Chief Executive Officer (CEO) or President of an organization, set the strategic goals of the organization and make decisions on how the overall organization will operate. Senior managers provide direction to the middle managers who report to them. Middle managers, examples of which would include branch managers, regional managers and section managers, provide direction to front-line managers. Middle managers communicate the strategic goals of senior management to the front-line managers. Lower managers, such as supervisors and front-line team leaders, oversee the work of regular employees (or volunteers, in some voluntary organizations) and provide direction on their work.

The English verb "manage" comes from the Italian *maneggiare* (to handle, especially tools or a horse), which derives from the two Latin words *manus* (hand) and *agere* (to act). The French word for housekeeping, *ménagerie*, derived from *ménager* ("to keep house"; compare *ménage* for "household"), also encompasses taking care of domestic animals. *Ménagerie* is the French translation of Xenophon's famous book *Oeconomicus* on household matters and husbandry. The French word *mesnagement* (or *ménagement*) influenced the semantic development of the English word *management* in the 17th and 18th centuries.

DEFINITIONS

Mark Zuckerberg is the Chief Executive Officer and Chair for Facebook, a major American social networking company.

Views on the definition and scope of management include:

- According to Henri Fayol, "to manage is to forecast and to plan, to organise, to command, to co-ordinate and to control."
- Fredmund Malik defines it as "the transformation of resources into utility."
- Management included as one of the factors of production - along with machines, materials and money.
- Ghislain Deslandes defines it as "a vulnerable force, under pressure to achieve results and endowed with the triple power of constraint, imitation and imagination, operating on subjective, interpersonal, institutional and environmental levels".
- Peter Drucker (1909–2005) saw the basic task of management as twofold: marketing and innovation. Nevertheless, innovation is also linked to marketing (product innovation is a central strategic marketing issue). Peter Drucker identifies marketing as a key essence for business success, but management and marketing are generally understood as two different

branches of business administration knowledge.

THEORETICAL SCOPE

Management involves identifying the mission, objective, procedures, rules and manipulation of the human capital of an enterprise to contribute to the success of the enterprise. This implies effective communication: an enterprise environment (as opposed to a physical or mechanical mechanism) implies human motivation and implies some sort of successful progress or system outcome. As such, management is not the manipulation of a mechanism (machine or automated program), not the herding of animals, and can occur either in a legal or in an illegal enterprise or environment. Management does not need to be seen from enterprise point of view alone, because management is an essential function to improve one's life and relationships. Management is therefore everywhere and it has a wider range of application. Based on this, management must have humans, communication, and a positive enterprise endeavor. Plans, measurements, motivational psychological tools, goals, and economic measures (profit, etc.) may or may not be necessary components for there to be management. At first, one views management functionally, such as measuring quantity, adjusting plans, meeting goals. This applies even in situations where planning does not take place. From this perspective, Henri Fayol (1841–1925) considers management to consist of six functions:

1. forecasting
2. planning
3. organizing
4. commanding
5. coordinating
6. controlling

(Henri Fayol was one of the most influential contributors to modern concepts of management.

In another way of thinking, Mary Parker Follett (1868–1933), allegedly defined management as "the art of getting things done through people". She described management as philosophy.

Critics, however, find this definition useful but far too narrow. The phrase "management is what managers do" occurs widely, suggesting the difficulty of defining management without circularity, the shifting nature of definitions and the connection of managerial practices with the existence of a managerial cadre or of a class.

One habit of thought regards management as equivalent to "business administration" and thus excludes management in places outside commerce, as for example in charities and in the public sector. More broadly, every organization must "manage" its work, people, processes, technology, etc. to maximize effectiveness. Nonetheless, many people refer to university departments that teach management as "business schools". Some such institutions (such as the Harvard Business School) use that name, while others (such as the Yale School of Management) employ the broader term "management".

English-speakers may also use the term "management" or "the management" as a collective word describing the managers of an organization, for example of a corporation. Historically this use of the term often contrasted with the term "labor" - referring to those being managed.

But in the present era the concept of management is identified in the wide areas and its frontiers have been pushed to a broader range. Apart from profitable organizations even Non-Profitable

Organizations (NGOs) apply management concepts. The concept and its uses are not constrained. Management on the whole is the process of planning, organizing, staffing, leading and controlling.

NATURE OF WORK

In profitable organizations, management's primary function is the satisfaction of a range of stakeholders. This typically involves making a profit (for the shareholders), creating valued products at a reasonable cost (for customers), and providing great employment opportunities for employees. In nonprofit management, add the importance of keeping the faith of donors. In most models of management and governance, shareholders vote for the board of directors, and the board then hires senior management. Some organizations have experimented with other methods (such as employee-voting models) of selecting or reviewing managers, but this is rare.

In the public sector of countries constituted as representative democracies, voters elect politicians to public office. Such politicians hire many managers and administrators, and in some countries like the United States political appointees lose their jobs on the election of a new president/governor/mayor.

HISTORICAL DEVELOPMENT

Some see management (by definition) as late-modern (in the sense of late modernity) conceptualization. On those terms it cannot have a pre-modern history, only harbingers (such as stewards). Others, however, detect management-like-thought back to Sumerian traders and to the builders of the pyramids of ancient Egypt. Slave-owners through the centuries faced the problems of exploiting/motivating a dependent but sometimes unenthusiastic or recalcitrant workforce, but many pre-industrial enterprises, given their small scale, did not feel compelled to face the issues of management systematically. However, innovations such as the spread of Hindu numerals (5th to 15th centuries) and the codification of double-entry book-keeping (1494) provided tools for management assessment, planning and control.

With the changing workplaces of industrial revolutions in the 18th and 19th centuries, military theory and practice contributed approaches to managing the newly-popular factories.

Given the scale of most commercial operations and the lack of mechanized record- keeping and recording before the industrial revolution, it made sense for most owners of enterprises in those times to carry out management functions by and for themselves. But with growing size and complexity of organizations, the split between owners (individuals, industrial dynasties or groups of shareholders) and day-to-day managers (independent specialists in planning and control) gradually became more common.

EARLY WRITING

While management (according to some definitions) has existed for millennia, several writers have created a background of works that assisted in modern management theories. Some ancient military texts have been cited for lessons that civilian managers can gather. For example, Chinese general Sun Tzu in the 6th century BC, *The Art of War*, recommends being aware of and acting on strengths and weaknesses of both a manager's organization and a foe's. Influential Chinese Legalist philosopher Shen Buhai may be considered valuable as a rare premodern example of abstract theory of administration.

Various ancient and medieval civilizations have produced "mirrors for princes" books, which aim to advise new monarchs on how to govern. Plato described job specialization in 350 B.C., and Alfarabi

listed several leadership traits in A.D. 900. Other examples include the Indian Arthashastra by Chanakya (written around 300 BCE), and *The Prince* by Italian author Niccolò Machiavelli (c. 1515).

Written in 1776 by Adam Smith, a Scottish moral philosopher, *The Wealth of Nations* discussed efficient organization of work through division of labour. Smith described how changes in processes could boost productivity in the manufacture of pins. While individuals could produce 200 pins per day, Smith analyzed the steps involved in manufacture and, with 10 specialists, enabled production of 48,000 pins per day.

19th CENTURY

Classical economists such as Adam Smith (1723–1790) and John Stuart Mill (1806– 1873) provided a theoretical background to resource-allocation, production, and pricing issues. About the same time, innovators like Eli Whitney (1765–1825), James Watt (1736–1819), and Matthew Boulton (1728–1809) developed elements of technical production such as standardization, quality-control procedures, cost-accounting, interchangeability of parts, and work-planning. Many of these aspects of management existed in the pre-1861 slave-based sector of the US economy. That environment saw 4 million people, as the contemporary usages had it, "managed" in profitable quasi-mass production.

Salaried managers as an identifiable group first became prominent in the late 19th century.

20th CENTURY

By about 1900 one finds managers trying to place their theories on what they regarded as a thoroughly scientific basis (see scientism for perceived limitations of this belief).

Examples include Henry R. Towne's *Science of management* in the 1890s, Frederick Winslow Taylor's *The Principles of Scientific Management* (1911), Lillian Gilbreth's *Psychology of Management* (1914), Frank and Lillian Gilbreth's *Applied motion study* (1917), and Henry L. Gantt's charts (1910s). J. Duncan wrote the first college management-textbook in 1911. In 1912 Yoichi Ueno introduced Taylorism to Japan and became the first management consultant of the "Japanese-management style". His son Ichiro Ueno pioneered Japanese quality assurance.

The first comprehensive theories of management appeared around 1920. The Harvard Business School offered the first Master of Business Administration degree (MBA) in 1921. People like Henri Fayol (1841–1925) and Alexander Church described the various branches of management and their inter-relationships. In the early 20th century, people like Ordway Tead (1891–1973), Walter Scott and J. Mooney applied the principles of psychology to management. Other writers, such as Elton Mayo (1880– 1949), Mary Parker Follett (1868–1933), Chester Barnard (1886–1961), Max Weber (1864–1920), who saw what he called the "administrator" as bureaucrat), Rensis Likert (1903–1981), and Chris Argyris (* 1923) approached the phenomenon of management from a sociological perspective.

Peter Drucker (1909–2005) wrote one of the earliest books on applied management: *Concept of the Corporation* (published in 1946). It resulted from Alfred Sloan (chairman of General Motors until 1956) commissioning a study of the organisation. Drucker went on to write 39 books, many in the same vein.

H. Dodge, Ronald Fisher (1890–1962), and Thornton C. Fry introduced statistical techniques into management-studies. In the 1940s, Patrick Blackett worked in the development of the applied-mathematics science of operations research, initially for military operations. Operations research, sometimes known as "management science" (but distinct from Taylor's scientific management), attempts to take a scientific approach to solving decision-problems, and can apply

directly to multiple management problems, particularly in the areas of logistics and operations.

Some of the more recent developments include the Theory of Constraints, management by objectives, reengineering, Six Sigma and various information-technology-driven theories such as agile software development, as well as group-management theories such as Cog's Ladder.

As the general recognition of managers as a class solidified during the 20th century and gave perceived practitioners of the art/science of management a certain amount of prestige, so the way opened for popularised systems of management ideas to peddle their wares. In this context many management fads may have had more to do with pop psychology than with scientific theories of management.

Towards the end of the 20th century, business management came to consist of six separate branches, namely:

1. financial management
2. human resource management
3. information technology management (responsible for management information systems)
4. marketing management
5. operations management or production management
6. strategic management

21st CENTURY

In the 21st century observers find it increasingly difficult to subdivide management into functional categories in this way. More and more processes simultaneously involve several categories. Instead, one tends to think in terms of the various processes, tasks, and objects subject to management.

Branches of management theory also exist relating to nonprofits and to government: such as public administration, public management, and educational management. Further, management programs related to civil-society organizations have also spawned programs in nonprofit management and social entrepreneurship.

Note that many of the assumptions made by management have come under attack from business-ethics viewpoints, critical management studies, and anti-corporate activism.

As one consequence, workplace democracy (sometimes referred to as Workers' self- management) has become both more common and advocated to a greater extent, in some places distributing all management functions among workers, each of whom takes on a portion of the work. However, these models predate any current political issue, and may occur more naturally than does a command hierarchy. All management embraces to some degree a democratic principle—in that in the long term, the majority of workers must support management. Otherwise, they leave to find other work or go on strike. Despite the move toward workplace democracy, command-and-control organization structures remain commonplace as *de facto* organization structure. Indeed, the entrenched nature of command-and-control is evident in the way that recent layoffs have been conducted with management ranks affected far less than employees at the lower levels. In some cases, management has even rewarded itself with bonuses after laying off lower-level workers.

According to leadership academic Manfred F.R. Kets de Vries, a contemporary senior management team will almost inevitably have some personality disorders.

TOPICS

BASICS

Management operates through five basic functions: planning, organizing, coordinating, commanding, and controlling.

- **Planning**: Deciding what needs to happen in the future and generating plans for action (deciding in advance).
- **Organizing**: Making sure the human and nonhuman resources are put into place
- **Coordinating** (or staffing): Creating a structure through which an organization's goals can be accomplished.
- **Commanding** (or leading): Determining what must be done in a situation and getting people to do it.
- **Controlling**: Checking progress against plans.

Basic roles

- **Interpersonal**: roles that involve coordination and interaction with employees
- **Informational**: roles that involve handling, sharing, and analyzing information
- **Decision**: roles that require decision-making

Skills

Management skills include:

- political: used to build a power base and to establish connections
- conceptual: used to analyze complex situations
- interpersonal: used to communicate, motivate, mentor and delegate
- diagnostic: ability to visualize appropriate responses to a situation
- leadership: ability to lead and to provide guidance to a specific group
- technical: expertise in one's particular functional area.

Implementation of policies and strategies

- All policies and strategies must be discussed with all managerial personnel and staff.
- Managers must understand where and how they can implement their policies and strategies.
- A plan of action must be devised for each department.
- Policies and strategies must be reviewed regularly.
- Contingency plans must be devised in case the environment changes.
- Top-level managers should carry out regular progress assessments.
- The business requires team spirit and a good environment.
- The missions, objectives, strengths and weaknesses of each department must be analyzed to determine their roles in achieving the business's mission.
- The forecasting method develops a reliable picture of the business's future environment.
- A planning unit must be created to ensure that all plans are consistent and that policies and strategies are aimed at achieving the same mission and objectives.

Policies and strategies in the planning process

- They give mid and lower-level managers a good idea of the future plans for each department in an organization.

- A framework is created whereby plans and decisions are made.
- Mid and lower-level management may add their own plans to the business's strategies.

LEVELS

Most organizations have three management levels: first-level, middle-level, and top- level managers. First-line managers are the lowest level of management and manage the work of nonmanagerial individuals who are directly involved with the production or creation of the organization's products. First-line managers are often called supervisors, but may also be called line managers, office managers, or even foremen. Middle managers include all levels of management between the first-line level and the top level of the organization. These managers manage the work of first-line managers and may have titles such as department head, project leader, plant manager, or division manager. Top managers are responsible for making organization-wide decisions and establishing the plans and goals that affect the entire organization. These individuals typically have titles such as executive vice president, president, managing director, chief operating officer, chief executive officer, or chairman of the board.

These managers are classified in a hierarchy of authority, and perform different tasks. In many organizations, the number of managers in every level resembles a pyramid. Each level is explained below in specifications of their different responsibilities and likely job titles.

TOP

The top or senior layer of management consists of the board of directors (including non- executive directors and executive directors), president, vice-president, CEOs and other members of the C-level executives. Different organizations have various members in their C-suite, which may include a Chief Financial Officer, Chief Technology Officer, and so on. They are responsible for controlling and overseeing the operations of the entire organization. They set a "tone at the top" and develop strategic plans, company policies, and make decisions on the overall direction of the organization. In addition, top-level managers play a significant role in the mobilization of outside resources. Senior managers are accountable to the shareholders, the general public and to public bodies that oversee corporations and similar organizations. Some members of the senior management may serve as the public face of the organization, and they may make speeches to introduce new strategies or appear in marketing.

The board of directors is typically primarily composed of non-executives who owe a fiduciary duty to shareholders and are not closely involved in the day-to-day activities of the organization, although this varies depending on the type (e.g., public versus private), size and culture of the organization. These directors are theoretically liable for breaches of that duty and typically insured under directors and officers liability insurance. Fortune 500 directors are estimated to spend 4.4 hours per week on board duties, and median compensation was $212,512 in 2010. The board sets corporate strategy, makes major decisions such as major acquisitions, and hires, evaluates, and fires the top-level manager (Chief Executive Officer or CEO). The CEO typically hires other positions. However, board involvement in the hiring of other positions such as the Chief Financial Officer (CFO) has increased. In 2013, a survey of over 160 CEOs and directors of public and private companies found that the top weaknesses of CEOs were "mentoring skills" and "board engagement", and 10% of companies never evaluated the CEO. The board may also have certain employees (e.g., internal auditors) report to them or directly hire independent contractors; for example, the board (through the audit committee) typically selects the auditor.

Helpful skills of top management vary by the type of organization but typically include a broad understanding of competition, world economies, and politics. In addition, the CEO is responsible for implementing and determining (within the board's framework) the broad policies of the organization. Executive management accomplishes the day-to- day details, including: instructions for preparation of

department budgets, procedures, schedules; appointment of middle level executives such as department managers; coordination of departments; media and governmental relations; and

shareholder communication.

MIDDLE

Consist of general managers, branch managers and department managers. They are accountable to the top management for their department's function. They devote more time to organizational and directional functions. Their roles can be emphasized as executing organizational plans in conformance with the company's policies and the objectives of the top management, they define and discuss information and policies from top management to lower management, and most importantly they inspire and provide guidance to lower level managers towards better performance.

Middle management is the midway management of a categorized organization, being secondary to the senior management but above the deepest levels of operational members. An operational manager may be well-thought-out by middle management, or may be categorized as non-management operate, liable to the policy of the specific organization. Efficiency of the middle level is vital in any organization, since they bridge the gap between top level and bottom level staffs.

Their functions include:

- Design and implement effective group and inter-group work and information systems.
- Define and monitor group-level performance indicators.
- Diagnose and resolve problems within and among work groups.
- Design and implement reward systems that support cooperative behavior. They also make decision and share ideas with top managers.

LOWER

Lower managers include supervisors, section leaders, forepersons and team leaders. They focus on controlling and directing regular employees. They are usually responsible for assigning employees' tasks, guiding and supervising employees on day-to-day activities, ensuring the quality and quantity of production and/or service, making recommendations and suggestions to employees on their work, and channeling employee concerns that they cannot resolve to mid-level managers or other administrators. First-level or "front line" managers also act as role models for their employees. In some types of work, front line managers may also do some of the same tasks that employees do, at least some of the time. For example, in some restaurants, the front line managers will also serve customers during a very busy period of the day.

Front-line managers typically provide:

- Training for new employees
- Basic supervision
- Motivation
- Performance feedback and guidance

Some front-line managers may also provide career planning for employees who aim to rise within the organization.

TRAINING

Colleges and universities around the world offer bachelor's degrees, graduate degrees, diplomas and certificates in management, generally within their colleges of business, business schools or faculty of

management but also in other related departments. In the 2010s, there has been an increase in online management education and training in the form of electronic educational technology (also called e-learning). Online education has increased the accessibility of management training to people who do not live near a college or university, or who cannot afford to travel to a city where such training is available.

While some professions require academic credentials in order to work in the profession (e.g., law, medicine, engineering, which require, respectively the Bachelor of Law, Doctor of Medicine and Bachelor of Engineering degrees), management and administration positions do not necessarily require the completion of academic degrees. Some well-known senior executive in the United States who did not complete a university degree include Steve Jobs, Bill Gates and Mark Zuckerberg. However, many managers and executives have completed some type of business or management training, such as a Bachelor of Commerce or a Master of Business Administration degree. Some major organizations, including companies, not-for-profit organizations and governments, require applicants to managerial or executive positions to hold at minimum Bachelor's degree in a field related to administration of management, or in the case of business jobs, a Bachelor of Commerce or a similar degree.

UNITED STATES

UNDERGRADUATE

At the undergraduate level, the most common business program is the Bachelor of Commerce (B.Com.). A B.Com. is typically a four-year program that includes courses that give students an overview of the role of managers in planning and directing within an organization. Course topics include accounting, financial management, statistics, marketing, strategy, and other related areas. There are many other undergraduate degrees that include the study of management, such as Bachelor of Arts degrees with a major in business administration or management and Bachelor of Public Administration (B.P.A), a degree designed for individuals aiming to work as bureaucrats in the government jobs. Many colleges and universities also offer certificates and diplomas in business administration or management, which typically require one to two years of full-time study.

GRADUATE

At the graduate level students aiming at careers as managers or executives may choose to specialize in major subareas of management or business administration such as entrepreneurship, human resources, international business, organizational behavior, organizational theory, strategic management, accounting, corporate finance, entertainment, global management, healthcare management, investment management, sustainability and real estate. A Master of Business Administration (MBA) is the most popular professional master's degree and can be obtained from many universities in the United States. MBAs provide further education in management and leadership for graduate students. Other master's degrees in business and management include the Master of Science (M.Sc.) in business administration or management, which is typically taken by students aiming to become researchers or professors. There are also specialized master's degrees in administration for individuals aiming at careers outside of business, such as the Master of Public Administration (MPA) degree (also offered as a Master of Arts in Public Administration in some universities), for students aiming to become managers or executives in the public service and the Master of Health Administration, for students aiming to become managers or executives in the health care and hospital sector.

Management doctorates are the most advanced terminal degrees in the field of business and management. Most individuals obtaining management doctorates take the programs to obtain the training in research methods, statistical analysis and writing academic papers that they will need to seek careers as researchers, senior consultants and/or professors in business administration or management. There are two main types of management doctorates: the Doctor of Business Administration (D.B.A.) and the PhD in business administration or management. In the 2010s, doctorates in business administration and management are available with many specializations.

GOOD PRACTICES

While management trends can change rapidly, the long term trend in management has been defined by a market embracing diversity and a rising service industry. Managers are currently being trained to encourage greater equality for minorities and women in the workplace, by offering increased flexibility in working hours, better retraining, and innovative (and usually industry-specific) performance markers. Managers destined for the service sector are being trained to use unique measurement techniques, better worker support and more charismatic leadership styles. Human resources finds itself increasingly working with management in a training capacity to help collect management data on the success (or failure) of management actions with employees.