

Podstawową hipotezą niniejszego artykułu jest to, że Internet nie jest rewolucyjnym wynalazkiem, a jest zaledwie ostatnim w serii technologicznych innowacji ostatnich dwóch stuleci, a wszystkie one udoskonaliły przesyłanie informacji. Regularnie kursujący dyliżans dostarczający listy i gazety przyczynił się do wzrostu prędkości w przekazywaniu informacji. Począwszy od lat 1830-tych kolej podwoiła prędkość przekazywania informacji i następnie w latach 40-tych XIX wieku telegraf umożliwił natychmiastowy przekaz sygnałów na duże odległości. Do roku 1862 długość połączeń telegraficznych na świecie wzrosła do 240000 km a w roku 1866 kabel telegraficzny położony został na dnie Atlantyku łącząc Europę z Ameryką Północną. Informacja która drogą listowną z Chin do Europy docierała w ciągu 6 tygodni teraz mogła być przekazana w ciągu kilku minut. Elektryczny telegraf wywarł zatem znacznie większy wpływ na międzynarodową wymianę handlową i międzynarodową kontrolę polityczną niż Internet. Okazało się nagle, że istnieje możliwość porównywania cen towarów na rynkach międzynarodowych, co powodowało wzrost konkurencji i spadek cen. Telegraf umożliwił imperiom kolonialnym ścisłą kontrolę nad dominiami i ich rozwój. Wynalezienie telefonu przez Bella w 1886 roku było kontynuacją wynalazku jakim był telegraf. Natomiast osiągnięcia Marconiego w zakresie przesyłania informacji drogą sygnałów radiowych sięgnęły kulminacji w roku 1901 kiedy to przesłano pierwszy sygnał radiowy przez Atlantyk. Internet jest kolejnym udoskonaleniem w przekazywaniu informacji wspomagającym wszystkie sektory ekonomiczne i indywidualnych użytkowników, którzy mogą pozwolić sobie na zakup komputera. Za dużo jednak przypisuje się Internetowi, a czynią to szczególnie ci, dla których historia technologii nie posiada znaczenia.

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## THE INTERNET IN PERSPECTIVE

### *Summary*

The basic premise of this paper is that far from being a revolution, the internet is merely the latest in a series of technological innovations introduced over the last two centuries, all of which have improved the transmission of information. Regular horse-drawn coach services increased the speed of information transmission through letters and newspapers. From the 1830s the railways quintupled the speed at which information could be sent, and by the 1840s electric telegraphy enabled instantaneous signals to be sent over long distances. By 1862 the world's telegraph system covered 240,000 km, and in 1866 a cable was laid across the Atlantic. By reducing the time taken for information via letter to reach Europe from, for example, China from eight weeks to a matter of minutes, the electric telegraph arguably had a much greater impact on international business and international political control than the internet. Suddenly international commodity prices could be instantly compared, competition increased and prices fell. The telegraph enabled colonial empires to be much more closely controlled and expanded. The introduction of the telephone by Bell in 1876 was an extension of the telegraph, but Marconi's

work on radio signals, culminating in the sending of a transatlantic signal in 1901, was a major breakthrough since it overcame the problem of maintaining costly land and submarine lines. The internet, predicated on the invention of the electronic computer, has further facilitated the transmission of information, assisting all economic sectors, and individuals who can afford a computer. But too much is claimed for the internet, usually by those for whom the history of technology is not an issue.

### *Introduction*

The basic premise of this paper is that far from being a revolution, the Internet is merely the latest in a series of technological innovations introduced over the last two centuries, all of which have improved the speed of information transmission. It should be emphasised, however, that the means of information transmission is only an enabling technology which sets the limit of what is possible; it does not determine what actually occurs (Dicken, 1986, 192). Thus new methods of information transmission have to be placed within the socio-economic and political context of particular places at particular times. It follows therefore

### *The Evolution of Information Technology*

that areas which are strong economically and politically are able to use the new technologies to make themselves more powerful economically and politically, in so doing contributing to further differences in economic and political power. It is therefore simplistic to assume that the internet, for instance, is going to change existing international power structures, or alter the differences between centres and peripheries within nations themselves.

In order to demonstrate the place of the internet in an historical context, it is convenient to present the details in tabular form, at the same time indicating some of the more important effects of each innovation. Doubtless the arrival of each innovation was greeted with the kind of enthusiasm which has been accorded to the internet. An historical treatment intro-

#### THE EVOLUTION OF INFORMATION TECHNOLOGY

	<b>Technology</b>	<b>Information Medium</b>	<b>Impact</b>
1.	Horse drawn coach 15 kph	Newspapers, letters, people	Traditional society. Strong regional economies, local self-sufficiency
2.	Railway, 1830s 80 kph	Newspapers, letters, people	Beginning of break- down of local self-suffi- ciency
3.	Electric telegraph, 1840s. By 1862 240,000 km of telegraph in world. Transatlantic ca- ble 1866	Messages (Morse code)	Improved business efficiency. National & international price comparisons Helps administration of colonial empires, ar- mies and navies. Esta- blishment of first multi- national, Singer in 1865.

THE INTERNET IN PERSPECTIVE

4.	Teleprinter, 1872. Thomas Edison. Use of electric typewriter	Messages, newspaper articles	Emphasises above
	<b>Technology</b>	<b>Information Medium</b>	<b>Impact</b>
5.	Telephone, 1876. Alexander Bell. 1884 148,000 phones in USA, 1910 1 per 11 people USA, 1 per 65 people Germany	Speech	Speeds business transactions. Beginning split HQ & factory. HOs move to inf. rich locations. Social satisfaction (for wealthy)
6.	Radio, 1886, Henrich Hertz; transatlantic signal 1901, Guglielmo Marconi	Speech (from 1906)	Reduction in cost of inf. transmission & marine insurance costs. Social satisfaction
7.	Computer, 1888. Herman Hollerith	Information handling	Storage of large quantities of information
8.	Television 1926 JL Baird	Images	Very effective means of advertising. Retail sales rise. Social satisfaction
9.	Jet passenger aircraft Comet 1948, Boeing 747 1954, Concorde	People	Promotes face to face meetings between W European & N American businessmen

10.	Satellite communication Early Bird 1965	Speech	Assists international division of labour - the global village concept. Multinats build communication systems to coordinate prod. accounting, financial planing & marketing in plants over the world. Concentration of business in world cities.
11.	E-mail, internet	Messages, images, visual information	Greatly improved general information availability within organisations and some homes. Social satisfaction

duces a more rational perspective.

### ***Commentary***

1. Each technical innovation has reduced the cost of information transmission and helped to reduce the friction of distance. Arguably the most important single innovation was the electric telegraph, not the internet. This view is supported by such thinkers as Noam Chomsky at Massachusetts Institute of Technology (Guardian, 17 October 2002).
2. Each innovation was pioneered in W Europe and USA, and first introduced there.
3. The greatest advantages have accrued to the advanced nations and largest

cities.

4. Information innovations have helped to cause the collapse of self-sufficient regional economies and their replacement by a global system of rich and poor.
5. Advanced nations are not advanced because of their lead in information transmission. Improvements in information transmission have been developed in W Europe and USA because they are advanced.
6. Why are they advanced? Because of their dynamic socio-economic and political environments. Thus Poland's per capita income in 1950 is thought to have been the same as that in Italy,

but the communist system prevented similar growth.

7. Technological change has improved the life of many individuals, but arguably the greatest benefit has been to business.
8. The most recent innovations are the most expensive for the consumer to purchase; the poor in advanced countries and the majority of people in Third World countries cannot participate.
9. The explosion of information has not been accompanied by an improvement in the ability to interpret it.

10. The internet is not a revolution, but part of the process of technological evolution.

### ***Reference***

Dicken, Peter (1986) *Global Shift. Industrial Change in a Turbulent World*, Harper & Row