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Globalization and communication science: Suggested theoretical approaches and areas of research

ABSTRACT

Globalization is an inevitable phenomenon characterized by both integrating and disintegrating forces. This article argues that the outcome of Globalization will be determined by how the global community responds to, and engages in, the process. It suggests that communication scholars can play a role in influencing globalization towards a constructive outcome by directing their research endeavours and theoretical reflection towards finding ways to enhance human development and effective global integration. A conceptualization of globalization for communication science and a number of theoretical approaches which could be used to study the phenomenon from a communication perspective, are proposed. Lastly, suggestions are offered for research contributions that could assist in steering the global system towards a more mature and stable state and the attainment of a higher order of societal consciousness.

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1. INTRODUCTION

Globalization, which encompasses a wide range of societal forces leading to increased global integration and fading boundaries, became an inevitable force at the start of the new millennium. Jeannet (2000:8) states: 'Globalization is not a fashion, or a temporary development, and introduces the term "global imperative" to describe the necessity that forces companies to embrace globalization or face extinction. The global imperative is the result of the great, at times uncontrollable, forces of globalization' (Jeannet, 2000:5). According to Jeannet (2000:7), all countries, large or small, developed or emerging, and all companies, not only large ones, or those already recognized as international or multinational players, are subjected to the global imperative.

While globalization is inevitable, its form and character are not (Soludo, 2001:50). How the global community responds to the influences of globalization will determine its outcome. This community is being challenged to engage with globalizing forces to influence it in the direction of a more beneficial outcome for all.

This article is based on the presupposition that communication scholars can play a role in influencing globalization towards constructive ends and to make it beneficial for more people. It proposes a general framework within which globalization can be studied in communication science, and identifies a number of research areas through which communication scholars can contribute towards measures to counteract some of the negative consequences of the phenomenon.

2. TOWARDS A DEFINITION: DISCOURSES OF GLOBALIZATION

Broadly speaking, globalization can be defined as mainly an economic phenomenon or as a broader process encompassing a wider range of societal forces such as politics, technology, culture and education.

2.1 Globalization as an economic process

Some definitions of globalization as an economic process include that of Stetar (2000:28) - the increasing integration of world capital, knowledge and trade; Abedian (1998:20) - world economic integration; and Mersham and Skinner (2001a:29) - the progressive integration of the world's economies.

The economic aspect of globalization is characterized by dimensions such as the global financial market, the transformation of international trade, the internationalization of production and the globalization of science and technology (Castells, 2001a:3-10). Verwey (2001:81), for example, describes globalization as the increasing convergence

and interdependence of national economies and of the scope and availability of markets, distribution systems, capital, labour and technology. And according to Daniels et al. (2000a:3), internationalization in business is measured in terms of trade, export, imports, cross-border investment flows, protectionism, export/import diversification and international alliances and partnerships with foreign firms.

2.2 Globalization as greater connectivity and information flow

A recurrent theme in definitions of globalization is that of greater connectivity and a resulting increase in the availability and flow of information brought about by recent developments in communication technology. Terms such as Information Age (Aldridge, 1997:8); Information Explosion (Frederick, 1993:8); Information Superhighway (Neher, 1997:4); Internet Age (Thussu, 2000:224); Digital Renaissance (Aldridge, 1997:8); Communication Revolution (Van Dijk, 1999:8); Age of Communication (Verwey, 2001:75); Global Communication (Mowlana, 1997:239); Digital Age (Mersham & Skinner, 2001b:136); and e-Sphere (Pelton, 2000:2) have been advanced to describe this phenomenon.

Mersham and Skinner (2001a:29) suggest that the Internet underpins globalization and is the defining phenomenon of the early 21st century, occupying the minds of governments, business leaders and organized labour alike. Globalization through technology means that information is freely and frequently exchanged between different groups across national and cultural boundaries. This results in borders so blurred that they are becoming meaningless (Herbert, 2001:48).

2.3 Globalization as more than an economic process

Probably the majority of scholars view globalization as more than an economic process. Even among those who study globalization mainly as an economic process, there is often recognition of the complex and multifaceted nature of the phenomenon. Castells (2001a:3) is a case in point. He points out that globalization is not only economic, but also refers to media, information systems, international institutions and the networking of states. Abedian (1998:6-7) echoes this view by suggesting that globalization describes the increasing inter-penetration between individual life and the global future. He argues that globalization should not be understood as wholly an economic concept, or simply a development of the world system, or as purely the development of large-scale global institutions. Morolo (2001) adds that although primarily viewed as a complex and multifaceted economic process, globalization also impacts on political, social and cultural levels.

Definitions of globalization covering more than economics include examples such as the gradual (and often rapid) fading of boundaries - be they cultural, religious, economical,

industrial or technological (Serfontein, 2001:78); a result of the internationalisation of commodity flows, migratory movements, pollution and information (Dahl, 1998); and the process by which societies and economies become integrated (Elliott, 2001:87).

2.4 Globalization and the role of culture

Studying globalization from a sociological perspective offers an alternative to interpreting globalization as primarily an economic process. Viewed from this perspective, the notion of culture is particularly important. Global integration and fading boundaries not only result in an emerging global culture, but also impact on local culture.

The effects of globalization on the cultural balances and boundaries of the world prompt scholars to note concern about the loss of cultural identity. A global culture disregarding diversity is said to be emerging, threatening local cultures. Thussu (2000:167), for example, refers to critics who see the emerging global pop-culture as an extension of American culture, prompting them to describe globalization as 'Americanisation'. Similar terms used by critics include 'Coca-Cola-isation' and 'McDonaldisation' (Tehranian, 1999:46). There are also those who believe that globalization promotes a wider Western lifestyle and value systems. Global news and entertainment networks especially are subjected to criticism of enforcing Western cultural imperialism. In this regard Mowlana (1997:6) refers to 'Westoxification', a process of encouraging its converts to adopt non-indigenous forms of behaviour.

There are, however, scholars who provide a more optimistic view of the effects of global cultural movement, some disputing cultural imperialism as a disintegrating force of globalization. Thussu (2000:80), for example, argues that interpretations of globalization preoccupied with the production and consumption of material culture ignore the role of cultural diversity, aesthetics and spirituality. Interpretations predicting a borderless world with the global market eroding cultural differences also miss an understanding of the interaction of class with nationalism, region, race, ethnicity and feminism to produce local political struggle and the rise in ethnic and religious conflict worldwide. Strelitz (2001:49), in turn, points out that qualitative studies of local media consumption provide an important counter to the claim of cultural imperialism. These studies show that the way in which local audiences interact with global media does not confirm the claim of cultural homogenization of global media, and provides a corrective to this pessimistic view. Conradie (2001:30) agrees with this standpoint by suggesting that, as a result of globalization, people are becoming more attached to their primary cultural group, be it ethnic, religious or linguistic, or a combination of these. This is one of the outcomes of localization - said to be taking place simultaneously with globalization - which is discussed in the next section.

2.5 Interconnection of globalization and localization

Various authors recognize the interplay between globalization and local variables. According to Hamelink (1995:122-123), the interconnected nature of globalization and localization means that globalization impacts locally on people's lives. Even if they lack electricity and live in rural areas, their lives are often influenced by global events and decisions. Tehranian (1999:47) supports this view by suggesting that a dual process of globalization of the local and localization of the global has made isolation and dissociation virtually impossible for any nation. He sees localisation as a bottom-up process, in contrast with globalization as a top-down process.

The term glocalisation has been advanced to describe the process in which the global and local interpenetrate (Claassen, 1999:30). The term has its origins in the discipline of marketing, and expresses the global production of the local and the localization of the global (Thussu, 2000:79).

Conradie (2001:71) suggests that globalization impacts on local societies on two levels: directly and indirectly. An example of a direct impact would be a change in the international exchange rate of the local currency as a result of a global economic change. Indirect impacts are those mediated by intervening local variables such as people's cognitions, values, perceptions and attitudes. Conradie (2001:72) concludes that socio-cultural variables such as these not only help determine the perceived importance of global forces in a particular industry, but also contribute to the local impact of, and responses to, globalization.

2.6 Globalization as a movement towards global consciousness and understanding

Protagonists of globalization often see it as accompanied by a move towards a new global consciousness (Thussu, 2000:77). Hamelink (1995:3) defines global consciousness as an awareness that local events have global consequences, an understanding of the political roots of global problems, a sensitivity to the need for global solidarity and an acceptance and mutual recognition of social and cultural differences. Global consciousness is seen as a condition that would foster global understanding, which would in turn lead to true global integration. Hamelink (1995:3-4) defines global understanding as acceptance and mutual recognition of socio-cultural differences and a perception of the needs of the global community as more important than those of the local community.

Viewed from the perspective of complex, dynamic systems and chaos theory, which is discussed later, globalization and the Communication Revolution have the potential to transform mankind towards a higher consciousness, resulting in greater global unity,

social justice and equity. New emerging paradigms such as energy and connectivity (Aldridge, 1997:6), the Third Wave (Toffler & Toffler, 1997:viii-ix), the Worldwide Mind (Pelton, 2000:4) and holism and ecology (Verwey, 2001:84) suggest that the world is moving towards a holistic global perspective away from separateness thinking. This is accompanied by predictions such as greater acknowledgement of the interdependence of human society; more emphasis on global collective thinking; an increase in multicultural and global alliances and international cooperation; and greater tolerance and respect for human differences.

2.7 Globalization as applied to communication studies

From the perspective of communication studies, globalization deals with more than the economy. Thus, when applied to this discipline, globalization should be defined in the broader sense of the word, i.e. as more than an economic process, encompassing the wider range of global societal forces leading to increased global integration, fading boundaries and an emerging world culture. In this regard, a definition such as the spread, internationally, of more or less continuous waves of innovation (Gibbons, 2001:1) could be applied to wider society, including political, social, economic and cultural spheres. As communication deals with relationships, and globalization reflects a process in which social relations are not only linked at economic level, but also permeate the political, social, cultural and environmental spheres (Walters, et al., 1997:13), approaching globalization from a broader perspective rather than viewing it mainly as an economic perspective is called for.

3. THEORETICAL APPROACHES TO THE STUDY OF GLOBALIZATION

Globalization and its related concepts such as global communication and the Information Age can be studied from a number of theoretical perspectives. An overview of perspectives advanced in recent literature, and which could be applied in communication studies, is given here.

3.1 Rejection of the Global Village metaphor

Several authors liken the current global system to the Global Village, metaphor launched by Marshall McLuhan in the 1960s (e.g. Mowlana, 1997:17; Monye, 2000:3; Paolini, 2001:6; Serfontein, 2001:84; Thussu, 2000:80; McAuley, 2001:77; Toonen, 1998:23; Daniels, et al., 2000b:31).

However, there are also those who question the notion of a Global Village which proposes that the world is shrinking. Hamelink (1995:121) calls the Global Village a fashionable image that offers an inadequate description of the real world. He suggests that the

world is actually expanding. There is more world than ever before in history: more people, more nations, more conflicts. It is certainly true that advances in communication and transport technology have made contacts among people and nations a reality. Yet it is also true that around the world most people stay at home. While acknowledging that people may have a window on the world outside through the mass media and telecommunication, Hamelink (1995:2) argues that most people live their lives within the boundaries of the 'local village'. This view is reiterated by Silver (1999:80), who believes that the vision of an online Global Village runs counter to one of the fastest growing areas of the Internet - community networks. The latter are local, place-specific computer networks.

Frederick (1993:119-120), while acknowledging that McLuhan's prediction was partially right, points out that huge stretches of territory on earth are not connected to the Global Village. Nor does the part that is connected represent a true neighbourhood, with a battle of opposing belief systems continuing. Nor did McLuhan make provision for the growth in influence of non-Western cultures and the resulting multicultural impact on global communication. Fishwick (1999:2), in turn, argues that the concept of Global Village ignores tribalism, regionalism, nationalism, love of language and fear of change. People are reluctant to give up their cultural cocoons for a piece of the Electronic Revolution.

Metaphors alternative to the Global Village are offered by a number of authors. Mersham and Skinner (2001b:18) introduce the idea of 'a vast, indistinguishable urban slum' which they believe perhaps better describes the situation that has emerged from globalization. According to Tehranian (1999:59), McLuhan's Global Village is looking more and more like a neofeudal manor with a highly fortified and opulent castle (centres of industrial, financial and media power) surrounded by a vast hinterland of working peasants clamouring for survival and recognition. Grunig (1999:14) suggests that rather than a Global Village, the world has become a specialized, fragmented society accompanied by an increasingly specialized media system.

There are also those theorists who believe that the Global Village has already taken place and that the current global communication system has moved beyond it. Van Dijk (1999:8-9) suggests that a global system characterized by convergence and interactivity has replaced the evolutionary phase of the Global Village. Pelton (2000:2) also believes that the Global Village is being replaced by a new paradigm. This paradigm is discussed in the next section.

3.2 The Worldwide Mind

According to Pelton (2000:2-3), the Global Village has given way to what he calls the 'Worldwide Mind' and the ever-growing yet ever-shrinking e-Sphere, brought about by

cyberspace and the exploding pattern of global change. He introduces the terms 'jerk', 'chaos', 'planetary consciousness', 'Telepower' and 'Teleshock' to explain the world in which human beings are at the beginning of the 21st century.

Jerk is a term derived from physics, to define an increasing rate of acceleration. Cyberspace technologies are creating a jerk in society, the impact of which is bigger than that of the agricultural and industrial revolutions combined (Pelton, 2000:9-10).

According to Pelton (2000:3), human history has moved from a linear and continuous development to a non-linear and discontinuous progression that suggests that human beings live in a state of chaos. We have jumped to warp speed and the social, economic and cultural problems that invariably result are both challenging and frightening to contemplate. The gaps in human history that once spanned a millennium may now occur in a generation or less. This development sprang out of nowhere, as a product of cyberspace thinking of the *Worldwide Mind* (Pelton, 2000:4).

The e-Sphere is reshaping mankind's thinking, resulting in a planetary consciousness or *Worldwide Mind* (Pelton, 2000:(xii), 5). Now we are not a village that sees the same image, we are a *Worldwide Mind* that can think and interact together. This latter ability is what Pelton sees as the great strength of Telepower. The negative side of Telepower - the enormous social disruptions and problems it also creates - is what he calls Teleshock. Teleshock will ultimately create a virtual sense of intellectual claustrophobia inside our very consciousness (Pelton, 2000:4).

O'Hara-Devereaux and Johansen (1994:407,414) support the viewpoint that cyberspace is reshaping mankind's thinking and creating a new sense of community, stating that information technology has become the circulatory and nervous systems of emerging new organizations. They argue that the key forces that define the successful global enterprise are: dispersed, collaborative, mutually supporting networks of individuals and teams; a deep commitment to continual learning about technological and organizational innovation; and a broad and deepening sensitivity to the fundamental role played by cultural values. In this new community, the idea of management as control will disappear, and teams will become an essential unit of organizing (O'Hara-Devereaux & Johansen, 1994:403,406,413-414).

3.3 The network approach

Zimmerli (1998:15) believes that the perspective of thinking and living in networks is moving the discourse of globalization beyond post-modernism. McAuley (2001:80) reiterates this view by identifying the network perspective as the most recent and increasingly most popular school of thought in internationalization. Van Dijk (1999:2),

in turn, suggests that the 21st century should be called the Age of Networks, pointing out that networks will be the nervous system of future society. The Network Society replaces the mass society which is a term for the type of society that developed during the Industrial Revolution when large concentrations of people came together in industrial towns and trading centres (Van Dijk, 1999:23).

Van Dijk (1999:220) defines the Network Society as a form of society increasingly organizing its relationships in media networks, which are gradually replacing or complementing the social networks of face-to-face communication. This means that social and media networks are shaping the prime mode of organization and the most important structures of society.

Networks are often characterized by sets of exchange relationships between individuals or organizations. Within the relationship, the exchange components can be a product or service, information and financial or social elements (McAuley, 2001:86).

Van Dijk (1999:220) identifies a network structure existing in the economy, in politics and in society at large. A network structure not only pervades these spheres, but increasingly connects them all. Finally, a network structure connects all levels of society, usually called micro-, meso- and macro-levels or the private and public spheres.

Different types of global networks are suggested by a number of authors. Tehranian (1999:50) identifies two types of networks that interact to form a global network: hard and soft. The former consists of transportation, telecommunication and tourism, whereas the latter - which provides the programmes that negotiate and integrate the competing interests and values of the global players - includes global broadcasting, advertising, education and exchanges of information. Localization processes create their own hard and soft networks, the agents of these being nationalist, religious and cultural movements and leaders voicing local interests and views. Van Dijk (1999:220,222), in turn, draws a distinction between media networks and social networks. He points out though that the traditional dividing lines between these are blurring. Media networks do not replace social networks and face-to-face communication, but are added to them. And on the Internet, interpersonal, organizational and mass communication come together.

McAuley (2001:86) identifies two roles of networks, which are a common theme in many definitions: as interaction at a formal organizational level between businesses, and as a social interaction or exchange between individuals. It is inevitable, however, that the two dimensions will overlap. Thus, the Network Society creates a spider's web of influences covering both formal and informal networks (McAuley, 2001:87).

3.4 Unitary theory of communication as ecology

Rush (1999:68) argues that human beings work within and towards a global eco-communication system to bring themselves into balance (understanding) with the rest of the universe through continual adjustment (communication of information). In this regard, she envisions eco-communication, which stands for ecology of communication, as the mutual communicative and informative relations among human beings, as a species, and between them and their environment. With reference to global communication, Rush (1999:68) suggests that theory and research should be ecologically based, inclusive and diverse, to bring global intersections to the Information Highway. This will ensure that the voices of silenced groups are heard, and intersect with the broad agenda of human issues, giving sustainable knowledge.

Mowlana (1997:235-236) supports the notion of eco-communication, and proposes what he terms the unitary theory of communication as ecology. He believes that ecology offers a useful framework, not only for the well-being or deterioration of the planet and physical environment, but for principles that can be applied to the cultural and the media environments. The ecological perspective argues for sustainable development, and a communication system that satisfies human needs without diminishing the prospects of future utilization. Mowlana uses the term ecology in the broad sense, to include all the symbolic environments in which human and technological communication take place.

This theory can be used to explain the process of information and technological innovation, as it relates to communication between human beings and their environment, and among people and nations. It explains global communication in terms of a quest for satisfactory human interaction, rather than viewed through the lens of technological growth (Mowlana, 1997:235).

Mowlana (1997:236-237) proposes the following as the major ecological dimensions:

- Ecology of goods and commodities, such as industrial and manufacturing items
- Ecology of services, including banking, insurance and education
- Ecology of warfare, meaning all the military and security hardware, software and the infrastructure therein
- Ecology of information, encompassing processes such as cultural industries and mass media
- Ecology of habitat, comprising areas such as demography, housing, physical environment and pollution
- Ecology of ethics and morality, referring to specific normative discourse such as religion, morals, laws and social contacts

These dimensions are not spatial, but relational and integrative. This means that human beings interact with these environments separately on a one-to-one basis, but also with all six in an integrated form. The six environments also interact with one another and with human beings, in an integrated manner. The implication is that the world's cultural, economic and political environments cannot be understood completely without turning the attention to this unitary phenomenon in terms of communication and culture. Thus, the notion of self, society and universe, is very much shaped by this ecological view, and the way in which humans perceive language, literacy, arts, sciences and, in short, reality (Mowlana, 1997:37).

3.5 The Global Mindset as a managerial paradigm

Jeannet (2000:10-11,33-41) identifies five different mindsets that can be followed as managerial paradigms. The Domestic Mindset is characterized by a reliance on one market as the key reference and is the mindset with which most managers are born. Domestic mindsets rely on a single reference point, their domestic markets, for judgements. The problem with this mindset is that executives following it usually have more difficulty absorbing developments and ideas from other parts of the world.

The International Mindset is characterized by one or a few experiences in another country. There are different levels of international mindsets, depending on the level of international exposure. The International Mindset with a limited but in-depth exposure is not identical to the more extensive Global Mindset.

The Regional Mindset includes experience across a score of countries and is characterized by a deep understanding of a number of individual, but similar countries, such as those in Latin America, the European Union (EU) or the Southern African Development Community (SADC).

The Multinational Mindset is characterized by successive assignments in different countries. The difference between this mindset and the next one, the Global Mindset, stems from the fact that the multinational mindset operates on a multidomestic basis, having one country or market in sight at a time, and is not geared to worldwide responsibility where different rules apply.

The Global Mindset is defined as a state of mind able to understand a business, an industry sector, or a particular market on a global basis. An individual with a global mindset has the ability to see across multiple territories, and focuses on commonalities across many markets rather than on the differences between countries. The Global Market is not simply a linear extension of the Multinational Mindset, but has unique dimensions and perspectives.

The Global Mindset is the newest in the progression of mindsets over time, and will become, as suggested by Jeannet (2000:10), a necessity in the new global era.

3.6 Evolution theory and complex, dynamic systems

Systems theory provides a holistic perspective of the global society. Viewed in terms of this perspective, the global society could be regarded as a macrosystem consisting of a vast number of subsystems comprising different countries, the global political order, global economic order, the global media system, etc. From a systems perspective, the global society could be viewed as an integral whole, the components of which are linked and influence one another. The emphasis is on the interconnectedness of the diverse subsystems in the world, which explains why an event on one side of the globe can have consequences for those who live on the opposite side. Global communication could be regarded as the glue that keeps subsystems connected and allows for feedback that enables the system to change, adapt and regulate itself. Viewing the global society from a systems perspective also allows for the study of relationships and networks between the different subsystems and the impact of these relationships and networks on the world community. The newer paradigm of complex, dynamic systems allows for focus on the divergent nature of the world as a globalizing entity, and it is particularly suitable to deal with the increasing complexity of the world as a macro-human system.

Eisenberg and Goodall (1997:100) point out that the concept of dynamic systems was born with the advent of relativity and the initiation of analogies between organic systems and human societies. Complex, dynamic systems relate to the development of higher order systems theories. The latter incorporate complex, dynamic and emergent properties into older, more static systems research and allow for a new awareness that is termed systems thinking (Baldwin, Leveque & Poole, 1999:79,81). Baldwin, Leveque and Poole (1999:97) note that the foundations of systems thinking - dynamism, complexity and emergence - counter the shortcomings of functionalism, an older systems perspective, which emphasized equilibrium and did not have the ability to model conflict and disruption in a social system. They argue that newer systems approaches are highly flexible and not only suggest the interaction of multiple forms of analysis, but also require it.

Laszlo (1987:9,20) terms the new paradigm of complex, dynamic systems the 'evolutionary paradigm', pointing out that it is the acceptance of the divergence property of dynamic systems that challenges the concept of equilibrium and determinacy of older systems theory. The evolutionary paradigm provides a framework for studying the evolution of both natural and socio-cultural systems. Laszlo (1987:20) notes that the science of complex, dynamic systems shows that evolution occurs when a system is in the third state. Systems in the first state are in equilibrium and dynamically inert. Those in the

second state are near equilibrium. These systems are not inert, but tend to move towards equilibrium as soon as the constraints that keep them in non-equilibrium are removed. Systems in the third state are non-linear, occasionally indeterminate and far from equilibrium. Such a system enters a transitory phase characterized by randomness and some degree of chaos. The system is now in a phase of bifurcation, which means that the smallest variation in an initial condition can give rise to widely differing outcomes. This chaotic state is not entirely random, but is governed by chaotic attractors. Chaotic attractors are complex and subtly ordered structures that constrain the behaviour of the seemingly random and unpredictable system. The chaotic phase comes to an end when the system settles into a new dynamic regime (Laszlo, 1987:21,35,41-43).

Abedian (1998:4) believes that globalization is best explained in terms of the evolutionary paradigm offered by the theory of complex, dynamic systems. This perspective shows that evolution has both a 'general direction' and a 'dominant mode of progression'. In general, evolution unfolds in three clusters:

- The levels of physical and chemical systems - the realm of matter
- The levels of biological systems - the realm of life
- The cluster of socio-cultural systems - the realm of society

There is a striking continuum of systems that emerges in all these clusters (Abedian, 1998:4). According to Laszlo (1987:108), both evolving socio-cultural and natural systems, tend to grow in size, develop more intricate relations among their components and create more massive and flexible modes of interaction among them. This process unfolds through three key evolutionary stages (Laszlo, 1987:31-34):

- The formation of catalytic cycles. These cycles tend to interlock, leading to the formation of cross-catalytic hypercycles.
- The emergence of dynamic systems. The formation of hypercycles allows dynamic systems to emerge on successively higher levels of organization.
- Evolutionary convergence. Two or more systems converge on one level and jointly create a suprasystem on the next level. This convergence does not mean growing similarity among systems, but rather adds diversity and richness to the new system.

Evolutionary convergence has direct relevance to the emerging global human society. In line with the above-mentioned evolutionary steps, such a global society would arise from convergent tendencies among diverse human societies via the formation of self-maintaining hypercycles on the global level. This is in accordance with the general direction of the evolutionary path of complex, dynamic systems (Abedian, 1998:5).

Unlike the traditional sciences, the new evolutionary theory does not view evolution as a deterministic process gravitating towards equilibrium with a fair measure of stability and predictability. Instead, it argues that dynamic systems have a divergence property. Different strings of events may therefore unfold, all within the confines of possibilities and limits of the laws. Each sequence in turn generates new sets of limits and possibilities, allowing the formation of diverse systems. The resultant systems are, however, not stable and can be critically disturbed (Abedian, 1998:5). When critically destabilized, systems enter a transitory phase characterized by indeterminacy, randomness and some degree of chaos (Laszlo, 1987:35). The transitory phase ends when the system settles into a new organizational mode, often on a higher level of organisation. It is therefore as a result of instability followed by phases of critical instability that evolution unfolds, climbing through progressive levels of organization from the physical to the biological, and to the human and social. This constitutes the dominant mode of the evolutionary process (Abedian, 1998:5).

3.7 Chaos theory

While the paradigm of complex, dynamic systems offers a useful systemic perspective on the increasingly interconnected and complex nature of the global society, and the resulting turbulence as this society is moving to a new order, the chaos theory provides a framework to study what can be done to assist the global system in self-organization.

According to Laszlo (1987:41), the chaos theory emerged as a discipline within the complex, dynamic systems theory as a result of the chaotic behaviour discovered in natural systems in the third state. This discipline is devoted to the study of the properties of chaotic attractors and of the systems governed by them.

Despite its name, the chaos theory seeks to eliminate rather than discover or create chaos. It studies the processes that appear chaotic on the surface but on detailed analysis prove to manifest subtle strands of order (Laszlo, 1987:41).

According to Goertzel (1994:4-6), the chaos theory picks up where the general systems theory of the 1940s and 1950s left off. Chaos theory studies the irregular and unpredictable time evolution of non-linear systems (Baker & Gollub, 1996:1). It represents a paradigm shift in teaching that forces of disorder, non-linearity, unpredictability and instability are controlling the universe, replacing the mechanistic paradigm of Newton, who viewed the universe as predictable and stable (Elliott & Kiel, 1998:1-2).

Although the chaos theory originated in the fields of the natural sciences, it is also applied to the humanities in fields such as psychology, linguistics (Goertzel, 1994:43-87), politics, economics (Elliott & Kiel, 1998:3) and organizational management

(Wheatley, 1994:121-137). It is particularly useful to provide an understanding of the increased complexity and turmoil in the global society brought about by the forces of globalization.

Chaos theory studies how order emerges from the interaction of parts of a whole (Yuhua Byers, 1997:30). It focuses on the capacity of a system to respond to disorder or non-equilibrium with renewed life (Wheatley, 1994:11). Chaos is the final state in a system's movement away from the familiar state and often predictable environment (De Wet, 2001:70) and can be described as the times in an organization when people are confused and feel overwhelmed (Rensburg & Ströh, 1998:56).

Chaos theory is central to the perspective of complex, dynamic systems in that the latter lends itself to periods of chaos when entering the third state. Goertzel (1994:3), however, warns against interpreting chaos as a synonym for complex system science, explaining the distinction as follows: 'Chaos theory has to do with determinism underlying apparent randomness. Complex systems science is more broadly concerned with the emergent, synergetic behaviours of systems composed of a large number of interacting parts'.

Chaos theory teaches that the world is inherently orderly and that fluctuation and change are part of the very process by which order is created. Chaos theory teaches that disorder can be a source of order, and that growth is found in disequilibrium rather than in balance. It shows that when looking at a system with the perspective of time, it always demonstrates its inherent orderliness. Chaos theory therefore moves away from linear thinking in viewing chaos and order, or change and stability, as two complementary aspects in the process of growth (Wheatley, 1994:18,20-21). Self-renewal and self-organizing abilities of systems are therefore important concepts of chaos theory. Self-renewing systems use their energy to recreate themselves and to change to new forms to deal with new information (Ströh, 1998:23-24).

Chaos theory explains much of the chaos the world is experiencing at the start of the new millennium: violent protests, an unstable economy, an uprising in religious fundamentalism and terrorism, ethnic strife, unemployment, crime, etc. Laszlo (1987:92) regards technology as a major cause of societal change, leading to turbulence and growth. History shows that all major technological revolutions created instability, pushing society to new levels of organization (Laszlo, 1987:93-101). In this regard, globalizing forces and the Communication Revolution could be regarded as factors subjecting the contemporary global community to destabilization, pushing it in a new direction. As a result of the negative consequences of globalization, together with the backlash of economic globalization, the global society at times seems unstable and out of control. Ströh (1998:39-40), in fact, terms the new millennium the age of chaos and change.

Abedian (1998:7) argues that the current stage of global integration is that of interdependent hypercycles of contemporary societies of developed, underdeveloped and emerging economies. 'In line with the salient features of transitory periods, today's interdependent socio-economic world order is characterized by indeterminacy, some degree of chaos and randomness. The existing state of interdependence has highly asymmetrical and, at times, harmful effects on some of its members' (Abedian, 1998:7).

Abedian (1998:10,24) views the current transitory phase as being characterized by two processes: 'integrative' and 'disintegrative'. Integrative forces help expand the web of global connectedness, while disintegrative forces contribute to the system's instability and environmental imbalances. Thus, the integrative forces can be used to explain the positive consequences of globalization, while the disintegrative forces explain contemporary negative impacts of globalization.

These integrative and disintegrative forces imply that globalization in its current form is a double-edged sword, imposing positive as well as negative influences - or what Pelton calls Telepower and Teleshock - on the world community.

3.8 A framework to study reactions to globalization

The integrating and disintegrating forces of globalization account for different reactions to globalization. Banting (1995) suggests four categories of people on the basis of how they tend to respond to economic globalization: Global Sceptics and Globalists regard globalization as desirable, with Globalists viewing globalization as a more radical change than Global Sceptics. Orthodox Keynesians - named after British economics theorist Maynard Keynes (Krugman, 1998) - and Traditional Leftists are not in favour of globalization, with Traditional Leftists viewing globalization as a more radical change than Keynesians, who view globalization merely as an extension of normal trends.

A typical reaction of Globalists would be to introduce social policy, which facilitates change by enhancing flexibility in labour markets and reducing the emphasis on passive income support programmes, and to prioritize the education of citizens so that they can compete effectively. A typical reaction of Global Sceptics would be to insist on reform processes that reflect domestic choices.

Orthodox Keynesians are less convinced than Global Sceptics that existing adjustment processes in the economy will work effectively, and emphasize the need for more expansive macro-economic policies to increase the aggregate demands in external economies and to reduce the slack in the labour market. The Traditional Left, who see globalization as a major threat to equality, social justice and democracy, would typically react by resisting further integration into the global order on unrestricted terms (Banting, 1995).

Globalists and Global Sceptics will probably react by trying to make the most of the potential benefits of globalization. The Orthodox Keynesians and the Traditional Left are likely to react to the negative impacts or risks associated with globalization (Conradie, 2001:72-73).

Violent protests at World Trade Organization (WTO) meetings have become a regular occurrence in recent years. Meetings of the World Bank, International Monetary Fund (IMF), Groups of Eight (G8) industrialized countries, World Economic Forum, World Social Forum and the EU have also been targeted (Financial Times, 2001; Le Quesne, 2001:66; Rohatyn, 2001). Global protests such as these pertain mainly to those who see globalization as essentially an economic process, and reflect the viewpoint of the Keynesians and Traditional Left. Other forms of globalization are, however, also subjected to disintegrating forces. Loss of cultural identity (McAuley, 2001:242; Mowlana, 1997:6), inequality in access to information (Garcia-Guadilla, 2001:1; Everard, 2000:42) and social decline (UNDP, 2001; Verwey, 2001:88) are some of the negative consequences associated with globalization in the wider sense of the word.

4. INFLUENCING GLOBALIZATION TOWARDS A CONSTRUCTIVE END

The viewpoints of the Globalists/Global Sceptics on the one hand and those of the Keynesians/Traditional left on the other suggest different future scenarios as a result of globalization, depending on how the global community influences the process. The negative impacts and risks associated with globalization suggest that global forces could lead to further fragmentation and conflict in the world. However, if responded to effectively, the phenomenon could have a constructive outcome. From the perspectives of complex, dynamic systems, the degree of chaos, instability and chaos currently experienced worldwide can be seen as a sign that the global system is in a period of transition, adjusting and moving to a new order. The new order could be a higher order characterized by increased equality, harmony and cooperation if the global community implements measures to move globalization in this direction. In essence, this means that globalization should be steered towards human development and global integration.

In this regard, it may be argued that the current protests against and criticism of globalization should be welcomed, as these produce pressure on the relevant global players to make adjustments that may propel the world towards the higher order about which supporters of dynamic, complex systems and chaos theory speak. The world may very well need the Keynesians and Traditional left, who may provide the impetus for growth and change.

Chaos theory can also be used to explain what can be done to assist the global system in self-organization and a return to a state of stability. Humans have a free will.

Therefore, unlike natural systems, the members of a societal system have the capacity to intervene in its evolution and to influence its outcome consciously. Laszlo (1987:128) states that it is possible to master the evolutionary process of high-energy technological societies by purposeful action based on a sound knowledge of socio-developmental dynamics. With reference to the current era, Laszlo (1987:141) suggests that a more mature and dynamically stable global society could be created by an atmosphere of mutual trust and the phasing out of narrow, short-term and self-centred economic and political strategies antithetical to long-term cooperation. He argues that individuals with communication skills and in key positions could make a crucial difference in this regard by creating and mobilizing a critical mass of people and exploring suitable channels of communication with governmental and non-governmental organizations (NGOs) and with business enterprises to gain support for humanistic causes (Laszlo, 1987:147-148).

It can be deduced from Laszlo's reasoning that communication professionals have the capacity to intervene in the evolution of the global community and to assist in driving it to more mature and harmonious state. Chaos theory provides a framework to study the specific responsibilities and changing role of communication agents to reach this aim.

It is suggested here that communicologists, through their research endeavours and theoretical reflection, could assist in influencing globalization towards human development and the attainment of a higher order of societal consciousness. A number of research areas through which such contributions could be made are mentioned in the concluding section. This discussion can be seen as a reflection of restructuring and reform processes advocated by Globalists and Global Sceptics, who typically accept globalization as inevitable.

5. CONCLUSION: SUGGESTED AREAS OF RESEARCH

Through their research endeavours, communication scholars could assist in determining the impact of globalization, the reasons behind the anti-globalization movement and the psychological and sociological effects of the Network Society on individuals and groups. Moreover, communication scholars could direct their research endeavours towards positive global integration. Four particular areas of research could offer contributions in this regard: global restructuring, global regulation and ethics, regional development and curriculation in the context of globalization.

According to Morolo (2001), in South Africa in particular, theoretical reflection is required on global restructuring from a Southern and Third World perspective. She calls for

research on issues such as the continental and regional role of South Africa in the context of globalization and the role and weight of developing countries in international forums regarding global restructuring.

With regard to global regulation and ethics, reform is needed to prevent exploitation in the context of globalization. It is particularly in the area of global communication and information technology that communication scholars can assist with research and suggestions to improve worldwide protection of intellectual knowledge and property, transborder data flow, international broadcasting and privacy in cyberspace. Through their research endeavours they could also speak out against exploitive practices of multinationals and promote public debate on topics related to global equality, regulation in information and communication technology and personal and mass media ethics.

With regard to regional development, communication researchers could contribute in multidisciplinary research aimed at recommending new governance strategies, policies and structures to stem the demise of the nation-state. Morolo (2001), for example, argues that in South Africa in particular a strong and interventionist state is needed to drive the process of democratic and economic transformation needed to address inequalities resulting from discrimination in the past. She assigns to researchers the task to address issues such as consequences of the end of the welfare state; international regulation; processes of transition, consolidation and ensuring democratic participation; and the changing role of the state.

The communication studies sector could assist the government in its development endeavours by highlighting the fragmentation that occurs as a result of the exclusion of communities from the Knowledge Economy and directing their research towards empowering marginalized communities to participate in knowledge production, which may lead to economic growth. Researchers in the Third World also need to take advantage of the trend towards international collaboration in research, which offers opportunities to address development issues globally. In this regard the communication studies sector in South Africa could assist in the push towards equity for Africa in the global arena. South African academics could assist in making the voice of Africa heard through research publications abroad, participation in international conferences and international research exchange programmes. The continent's position on the global agenda could also be strengthened through cooperation and strategic alliances between communication researchers in South Africa and those on the rest of the continent, allowing for shared resources and collaboration in research and publications. In particular, Morolo (2001) encourages research and theoretical reflection on processes that influence democratic participation, for example processes of identity formation such as race, class and ethnicity; social and cultural differentiation and the resulting processes of inclusion

and exclusion; gender, society and the individual; and ideologies. Kishun (1998:67-68) also calls on researchers to encourage research to stimulate critical thinking and enquiry about the complexity of issues and interests that bear on the relationship between nations, regions and interest groups.

Communication scholars can also assist in the call for the establishment of an infrastructure for modern electronic communication in the Third World to assist in the re-balancing of information flow between the 'haves' and the 'have-nots'. In this regard, Castells (2001b:164-166) calls for a 'Technological Marshall Plan' - a programme of First World intervention in Third World information development on the same gigantic scale as what occurred during the original Marshall Plan intended for the post-war reconstruction of West Germany (Kraak, 2001:109). Castells's main rationale for this plan is the need to implement a strategy of development aimed at modernizing Third World information technology infrastructures and human capital formation on the basis of massive Western governmental, multinational and NGO aid. Communication researchers can play a prominent role in ensuring that development remains on the global agenda by publicising the level of exclusion created by a lack of technological infrastructure in Third World countries, and through their research efforts offer solutions towards the inclusion of marginalized communities.

As education lays the foundation for effective global integration, research aimed at curriculum reform could offer a valuable contribution towards the future evolution of globalization. Goodman (2001) suggests that the most critical success factor for nations as they enter the 21st century will be people whose 'minds are open to the world'. Responding to the demands of globalization in education requires out-of-the-box thinking. Paolini (2001:6), in turn, suggests that global citizens should be educated to acquire a global perspective and a grasp of global interdependence - the idea that the earth functions as a holistic entity, particularly as related to ecological and socio-political functions. It is important for individuals to rise above their ethnocentrism and to understand that their worldview may not be universally shared. People need to effect a balance between their own cultural pride and the appreciation of other cultures (Paolini, 2001:6).

It follows from the above that tertiary institutions offering communication-related courses should make provision in curricula to transfer a global mindset and multiculturalism. The field of multicultural behaviourism has the goals of understanding, prediction and assimilating an individual's conception into a pluralistic one, and promotes international understanding. It is suggested that in today's increasingly competitive and demanding international free market economy, managers cannot succeed solely on their domestic cultural understanding skills alone (Parhizgar, 2000:20). With reference

to South Africa, Du Plooy (2001:95) argues that educators at tertiary institutions have an ethical obligation to recognize the diverse language and cultural histories of South Africa and to instil knowledge and respect for such diversities.

Educational reform in the context of globalization also calls for emphasis on new technological demands, multidisciplinary exploration and emphasis on lifelong learning.

Pelton (2000:xii-xiv), for example, calls for a move away from specialization, and the introduction of multi- and inter-disciplinary education and thinking. This does not mean the abandonment of disciplines, but rather diversity in interdisciplinary teams that can act like a 'multibrain' person. This will produce a movement towards collective consciousness which Pelton calls 'Zen-like' - a thinking pattern that will bring mankind closer to the ideas of the East (Pelton, 2000:13-16). The latter corresponds with the paradigm of energy and connectivity in terms of which all living and non-living systems are connected and interdependent (Aldridge, 1997:6), and calls for education that is more creative, self-directed and interactive, and includes experiential learning (Pelton, 2000:146,157).

With regard to lifelong learning, it can be expected that the demand will grow significantly as a result of the Communication Revolution (Farrington, 1997:56). Lifelong learners are the students of the 21st century. Those who work in the Network Society will change jobs more often than before, will need education to adapt to new employment and will need technology skills that are constantly updated (Leavitt, 1997:188).

By aiming their research efforts at curriculum reform, communicologists could assist in designing curricula that foster the new kind of holistic and multidisciplinary thinking and wide range of technological and other competencies needed in a globalizing communication environment.

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