Ethical implications of information and communication technologies in the context of development : a theological evaluation of current development strategies

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Boston College School of Theology and Ministry

(Weston Jesuit)

ETHICAL IMPLICATIONS

OF INFORMATION AND COMMUNICATION TECHNOLOGIES

IN THE CONTEXT OF DEVELOPMENT

A theological evaluation of current development strategies

Thesis Submitted in Partial Fulfillment

of the Requirements for the S.T.L Degree

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April 2011

ACKNOWLEDGEMENT

Paul Gauguin, 1897, *Where Do We Come From? What Are We? Where Are We Going?*
Museum of Fine Arts, Boston
Source: http://www.artchive.com

In memoriam of
Louis Joseph Lebret, O.P

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INTRODUCTION

1. **Overview and Statement of Problem**
2. **Methodology of the Thesis and Main Argument**

1. Overview and Statement of Problem

Technology has always been regarded as deeply connected to development. Moreover, technological evolution has been regarded as the key factor that boosts development. This statement does not need any authoritative support in our so-called technological age. We all experience this connection. Politicians, technocrats, economic experts, development agents, cultural and social developers, environmentalists, etc. - all generally place great trust for the immediate as well as the long-term future of our increasingly globalized mankind in the hands of technology. It is because of this reliance on the possibilities of technology that development, to some extent, has become identified with technology evolution. In fact, it seems that technological innovation is what marks the pace and the direction in the evolution of society as a whole. Moreover, the high standards of life enjoyed in the West are rightly attributed to technological acceleration. However, when it comes to technological innovation there seems to be neither a limit nor a concrete goal to achieve. Technological innovation may appear to be an unlimited and aimless process. In that sense, it is difficult to guess what the future development of global society might look like.

Underdeveloped communities, by definition, are followers along the developmental path that privileged societies apparently lead. Since the leaders do not know exactly what path they are walking on, the process of development for the followers becomes even more aimless. In that sense, the question of development in reference to the struggles of poor communities, regions, or countries, is basically understood as a perpetual treadmill of catching up.

This thesis does not intend to diminish the incontestable contribution of technology in combating poverty and underdevelopment. On the contrary, this thesis is an expression of optimism when it comes to the use of technology in bringing some measure of welfare to those deprived of adequate conditions of life. At the same time, this thesis is a reflection on the meaning of those bold words: technology, welfare and condition of life. We tend to put them together very easily and cavalierly, but the link may be less than fully evident, especially if we do not have a clear idea of what conditions of life we are promoting and pursuing. Development conceived as a mere catching-up in relation to western standards of life can hardly suit the conception of good conditions of life for, by way of example, a community in a rural area in Botswana. A good question here is whether development is merely a matter of bridging gaps. When the response is affirmative, development runs the risk of becoming a hopeless mission without a horizon. My response to this question is negative. In fact, the gap – or the gaps as we will see later - between what we typically understand as developed and underdeveloped regions is increasingly expanding. Moreover, struggling to achieve western conditions of life may not be entirely desirable or desirable at all, and perhaps is not even necessary. Therefore, we first need a notion of development

that integrates the conception of good conditions of life not only according to western standards and circumstances but also significant for the two thirds of the worldwide population that, like that rural community in Botswana, are far from western standards of adequacy in terms of conditions of life.

All the above analysis is applicable to the particular case of Information and Communication Technologies (from now on, ICT). In fact, the enormous boost that ICT has experienced in the last few decades is considered one of the major factors behind the so-called "knowledge society" and the globalizing currents that characterize today's trends of development. Besides, the continuous evolution of ICT is at the base of the accelerated pace that technological innovations experience in our day. First the New Industrialized Countries (NICs) and later the Emerging Economies (EEs) have witnessed to that influence, since both groups of countries attribute their achievements of economic prosperity to the reliance on the possibilities created by new technologies. ICT does not comprise all those new technologies, but it has become the indispensable ingredient for many of them, as well as for the application of most other more mature technologies. These accelerated processes imply an increasing pressure over development initiatives, especially when development is conceived as a catching-up or bridging the gap set of actions. The pertinent question at this point is whether this acceleration is necessary. My own response is that it is not. Indeed, this acceleration boosted by ICT may hinder the possibilities of attaining an adequate conception of development for many communities in the world.

At the same time, ICT is not solely an ingredient and driving force for other technologies; ICT plays an essential role in the redefinition of social relationships at all levels, both in terms of communication and information channels. We can expect that such

redefinition also affects heavily the question of development, since development has a lot to do with social relationships, as I aspire to make clear in this thesis.

This thesis, indeed, aims to respond to the question about the ethical implications of Information and Communication Technologies (ICT) when applied to the attainment of the goal of authentic development.

2. Methodology of the Thesis and Main Argument

The foregoing structure of this thesis reveals the methodology to be followed. This structure is the following:

A   Theological Inputs

B   Ethical Input

C   Techno-economic aspects

B'   Ethical outcome

A'   Theological Outcome

According to this methodology, theological reflection on social issues incorporates theological, philosophical and scientific inputs in order to issue an assessment in the light of a theological framework.

This thesis will start by providing a theological framework. From a Christian perspective, no aspect of economic development can be adequate without reference to key moral principles and values. I will deliberately avoid articulating judgments about justice and equality, primarily to preclude closing off dialogue with interlocutors with a range of

opinions on the content of justice and equality. The core value used to assess the genuine development will be *authentic participation*. The qualification for this authenticity will be provided both by philosophical – according to the rationales of development ethics – and theological insights, as distinct from the common understanding of participation in the economic realm.

Finding an adequate notion of development becomes crucial since this thesis aspires to appraise the current trends in the quest for development through technology in the context of the "knowledge society". Thus, the second chapter of this thesis will consist in providing this notion. I turn to Denis Goulet and his development ethics in order to draw on his main insights regarding authentic development. The following chapter will explore the relevant facts that concern the application of ICT to developmental actions. This chapter will clarify and expose in detail what experts have contributed on this particular technology and its role for development. The fourth and final chapter will try to draw out the subsequent ethical implications of applying Goulet's insights on development to the developmental possibilities attributed to ICT. In addition, my own position as a Christian contributes a hermeneutic context that aspires both to enlighten this reflection and also to contribute a humble theological approach to this matter. Thus, this final chapter constitutes such theological reflection as drawn from both the experience of facts and technical experts and philosophical thinking. The ultimate goal of this thesis will be to develop an adequate theological argumentation on the topic.

As a result of such combined reflection and, in responding to the ethical question posed, this thesis will argue that ICT's possibilities for authentic development are strongly

related to its becoming a means for the construction and enhancement of sharing communities of life where authentic participation can take place. In doing so, human development becomes a means for the construction of the global human community as mediation for the ultimate universal progress of humankind toward God.

C HAPTER 1 - THEOLOGICAL FRAMEWORK

Introduction
1. **Theological Sources**
    1.1. The Principle of Participation in the CST
    1.2. Scriptures: The Multiplication of Bread in Mark 6
2. **Theological Hermeneutics: The Category of Mediation**
Conclusion

Introduction

The Sacred Scriptures constitute the referential starting point for the Christian experience and a reflection on God's Revelation. It would be difficult to try to draw a specific teaching from the biblical corpus in relation to our particular topic. The Christian stance on social issues typically is the result of the interaction of two experiences. First, a global experience of the Word of God in the life of the Christian community and, second, the experience of specific circumstances that such a community lives. Such interaction has provided us with principles and other referential conceptions to assist in our dealing with the various situations and problems of our earthly life. Among these, I will mainly rely on the principle of participation. The quest for development, as considered in this thesis, comprises a complex interaction of different dimensions of social life – economic, technological, cultural, social, political, etc. If our objective is to achieve a development process according to our Christian conceptions, we need to order all of those dimensions affecting development in keeping with this Christian sense. I find in the principle of

participation a basic and crucial tool that helps us to render all of those different dimensions - and with them the matter of development – consistent with the Word of God.

Notwithstanding such a need for principles that represent the ecclesiastical apprehension of the Revelation, we also can try to advance our reflection by making explicit reference to a particular biblical passage. Indeed, I find that the biblical passage of the multiplication of the loaves of bread, which is present in all four gospels, offers us a sort of analogy in order to address the question about the role of technology in the promotion of development. An inadequate interpretation of this passage tends to stress the miraculous aspect of the narration. Likewise, an inadequate consideration of technology within the quest for development tends to look at it as a sort of miraculous resource. In John's Gospel, the people wanted to "make Jesus king" (John 6:15) because He provided them with food. In the same fashion, we are at risk – as we have noticed above - of making technology king. Further, I will make particular reference to the first multiplication narrated in the gospel according to Mark (MK 6, 30-44) in order to provide a more appropriate interpretation that can shed some light on the role of technology over development. Such interpretation will serve as a normative reference for subsequent analysis in later chapters.

This theological framework would not be complete without identifying a theological hermeneutical key. My option is the theological category of *mediation* or *sacramentality*, since this category is the most promising for expressing our insight into the Revelation of a God who chose to incarnate in our human society to bring to it the opportunity of an authentic development. Having presented all the elements that I intend to display as my theological framework, let us consider briefly each one of them.

1. Theological Sources

1.1. The Principle of Participation in the CST

The Social Doctrine of the Catholic Church establishes a corpus of principles that serves as the bases for its social teaching. Those principles - namely the principles of common good, universal destination of goods, participation, subsidiarity and solidarity – express in more concrete terms the most basic principle of the dignity of the human person. Among those principles, this thesis highlights and uses as a basic reference the principle of participation that I will attempt to expose and define in this section.

The document *Economic Justice for All,* issued in 1986 by the United States Conference of Catholic Bishops, represents the best exposition of this principle of participation in any document of the Catholic Church. With regard to the matter of development, the bishops state that "participation is […] vital to human development."[1]
In following this stance I will try to argue that participation is the most adequate principle to address economic issues and, in particular, the quest for development and the alleviation of poverty, from a moral perspective.

To start with, this principle must not be understood in this thesis as disconnected from the wider corpus of social principles, since as the *Compendium of the Social Doctrine of the Church* acknowledges, "the principles of the Church's social doctrine must be appreciated in their unity, interrelatedness and articulation. This requirement is rooted in

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[1] US Conference of Catholic Bishops (1986), Pastoral Letter *Economic Justice for All*, 15

the meaning that the Church herself attributes to her social doctrine, as a unified doctrinal corpus that interprets modern social realities in a systematic manner."[2]

In accordance with this sense, I find that this principle, to some extent, contains somehow all the other principles of the Social Doctrine. Moreover, I consider that participation becomes the practical and privileged expression for the other principles. Allow me to explain these points in further detail.

- Participation and the common good. Economic theory emphasizes competition as the basic economic behavior that leads the commonwealth down the path of prosperity and development. The economic expansion that western countries have experienced so far is attributed to such a competition. However, competition by itself does not guarantee that the common good is taken into account as the final goal to achieve. In order to ensure that competition is enhancing and improving the commonwealth, one presupposition is required, namely, that no one's participation is prevented. As the U.S Bishops put it, "today a greater spirit of partnership and teamwork is needed; competition alone will not do the job. […] Only a renewed commitment by all to the common good can deal creatively with the realities of international interdependence and economic dislocations in the domestic economy."[3]

At the same time, the most significant practical manifestation of the common good is a society where everyone can and does participate. In that sense, we can say that the

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[2] PONTIFICIAL COUNCIL "JUSTICE AND PEACE" (2005), *Compendium of the Social Doctrines of the Church*, 162
[3] US Conference of Catholic Bishops (1986), 296

broader the real participation, the bigger the commonwealth. Since a commonwealth is an integration of all the dimensions of social life - political, social, economic and cultural – an adequate level of participation is needed in all these dimensions. Participation is not to be compartmentalized, should we want to speak of participation at all. Aware of this, the U.S. Bishops maintain that "social institutions [must] be ordered in a way that guarantees all persons the ability to participate actively in the economic, political, and cultural life of society."[4]

The pursuit of a broader and integrated participation on behalf of the common good, demands structural changes in the current socio-economic landscape, and also in the political realm, both at the domestic and international levels. Whatever policies can be designed to modify these structures must provide citizens with real economic power; in other words, the common good demands that economic decision-making power be shared so that everyone can have a say in the economic decisions that affect himself, his family, his community, his region, his country, and also this global society. The U.S. Bishops reflect these insights when they declare that "[creating structures of participation, mutual accountability, and widely distributed power] are needed today to expand economic participation, broaden the sharing of economic power, and make economic decisions more accountable to the common good."[5]

Such empowerment, the sharing of decision-making power, is what actually enhances the commonwealth. When this real participation exists, competition may favor progress

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[4] US Conference of Catholic Bishops (1986), 78
[5] Id., 297

and development within the market system by stimulating economic activity. Moreover, when real participation is fully operative, the risks that competition may bring about in terms of vulnerability are lower. A wide distribution of power favors cooperative behavior among empowered agents. A prosperous commonwealth is, then, the result of cooperation, not of mere competition. Development, in this sense, is a fitting name for the process experienced by a commonwealth from less to broader empowerment or participation of all its members.

- Participation and subsidiarity. The search for a wider distribution of the power of economic decision-making requires respect for the principle of subsidiarity. Subsidiarity should be the natural order resulting from an adequate distribution of economic decision-making power. According to the U.S. Bishops, "the principle of subsidiarity states that the pursuit of economic justice must occur on all levels of society. It makes demands on communities as small as the family, as large as the global society and on all levels in between."[6]

  Authentic participation requires individuals to be empowered; but, at the same time, families, communities, areas, regions and nations must be endowed with the right to have a say – the main say – in the economic, political, social and cultural circumstances that affect them. In that sense, it is important for the common good not only that everyone is able to participate in the decision-making process; but also that each decision is made at the relevant level. The principle of subsidiarity reminds us that the individual is not the exclusive referential unit for the distribution of decision-

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[6] US Conference of Catholic Bishops (1986), 297

making power. If it were exclusively the individual, the sharing of the decision power could result in a reinforcement of competition instead of cooperation, endangering the common good. The fact that participation is necessarily accompanied by subsidiarity assures that the power of decision of anyone is contrasted within the social context of those affected. This shared power of decision-making assures participation for everyone and, at the same time, favors the construction of community bonds through collaboration. I would identify the main fruit of participation when rightly understood and practiced as the building up of human communities. Development, in my opinion, has much to do with this community "building-up", since the best chance for human development to flourish is linked to the creation of communitarian bonds.

- Participation and universal destination of goods. The connection between these two principles is quite evident. The conviction that all the goods of earth are for all implies an inherent right of participation. On the other hand, participation is the effective realization of the latter principle, since only by participating is the universality of the destiny of all goods achieved.

Moreover, concerning this interrelation, the principle of the universal destiny of goods displays its most profound and evangelical meaning in relation to the building up of the community where everyone participates. The Bible relates goods and community building. A Christian community distributes and shares its goods according the needs of each member. At the same time, in accord with various passages, sharing the goods builds up the community. In Romans, I Corinthians, I Timothy among other letters, Saint Paul speaks of a community as a communion of goods, especially spiritual goods.

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However, another passage, the multiplication of the bread mentioned above is even more significant for this interpretation. The next section in this chapter will briefly analyze this passage.

When the principle of the universal destiny of goods is not respected we witness situations of inequality that lead to different types of deprivation. I will argue that a policy that enhances the communitarian life of citizens is the best means to combat poverty. The main argument to defend this stance comes from the intrinsic relationship between authentic participation and a communitarian sense and style of life. A strong feeling of membership in a community empowers the individual and, at the same time, reduces the temptation of preventing others from participating, which would generate inequalities that cause deprivation. In this sense, an absence of participation is equivalent to poverty in its broader sense, as the U.S Bishops notice:

> Poverty is not merely the lack of financial resources. It entails a more profound kind of deprivation, a denial of full participation in the economic, social, and political life of society and an inability to influence decisions that affect one's life. It means being powerless in a way that assaults not only one's pocketbook but also one's fundamental human dignity[7].

Poverty and powerlessness come together and exacerbate one another. Thus, to the extent that overcoming situations of deprivation is a fundamental component of the process of development, I maintain that development finds a better ally in policies that empower communities which are where authentic participation can flourish.

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[7] US Conference of Catholic Bishops (1986), 188

- Participation and solidarity. Inequality can be considered the opposite of solidarity. As shown above, solidarity, however, cannot be taken for granted as automatically generated in the midst of the commonwealth. Solidarity needs to be fostered and circumstances where solidarity can appear and grow need to be created. Competition alone will not give rise to solidarity; on the contrary, it can hinder the creation or maintenance of bonds of solidarity. Competition not accompanied by solidarity generates landscapes of desolation since it fuels many varieties of inequalities present in our own society. In that sense, I agree with the words of the U.S. Bishops, when they state that "the principle of social solidarity suggests that alleviating poverty will require fundamental changes in social and economic structures that perpetuate glaring inequalities and cut off millions of citizens from full participation in the economic and social life."[8]

Certainly the absence of solidarity impedes participation. I would even say that where participation does not exist, there are many reasons for people to put solidarity aside and to merely compete in order to provide for their own needs. At the same time, we could also witness situations where the empowerment of individuals does not necessarily leads to attitudes of solidarity if the appropriate conditions are not provided, as mentioned earlier. My point is that a sense of membership in a community must be created. Only in the context of a community is solidarity made possible and durable; thus, only in a communitarian context, participation and solidarity collude for the sake of the common good. Social changes should take this into account, as the U.S. Bishops

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[8] US Conference of Catholic Bishops (1986), 187

remark that "the process of change should be one that draws together all citizens, whatever their economic status, into one community."[9] Concerning our quest for development, I will maintain that there will not be authentic development without solidarity.

It is time to conclude this section devoted to the principle of participation as a key reference for this thesis. However, it remains to formulate this principle; instead of giving a formulation I will rather offer a depiction of participation that suits my own perspective and follows the reasoning outlined above. Therefore, I maintain that:

- Authentic participation should be realized in terms of empowerment in the process of decision-making

- Authentic participation should reflect the different levels that constitute the society

- Authentic participation is intrinsically interrelated with the action of sharing

- Authentic participation should be accompanied by solidarity

As I have analyzed above, all those conditions for authentic participation relate participation and community. This point can serve as a conclusion to close this review on the principle of participation. However, simply listing principles may be not enough to inspire a vivid reflection on moral theology. Indeed, as Brian Brocks suggests under the influence of Bonheoffer, "Christian ethics without God's Word […] is forced to muster up the moral clarity that makes decisive action possible by ignoring this tendency to projection

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[9] Id.,187

and confidently relying on moral principles. In the name of a critical distance […] such moral theology becomes doubly alienated, from itself and from life."[10]

Therefore, participation must be more deeply grounded theologically so that this participation can be understood as a true Christian category. To do so, I will make use of the biblical passage of the multiplication of bread, as mentioned above. The narrative style and the symbolism proper to this Gospel passages should provide great vividness and dynamism. The final objective is to make the subsequent analyses more significant and closer to a human sense of life.

1.2. The multiplication of bread according to Mark 6:30-44[11]

I would like to incorporate the passage of the multiplication of the bread in this thesis as a normative reference for our theme because, as explained above, we can establish an analogy between it and the role of technology for development.

- The first parallelism comes when a necessity is noticed. Jesus and the disciples realize that the people gathered have a vital need for food. Likewise, development initiatives begin with the perception of a vital need.

- The conditions depicted in the biblical passage are inadequate for the purpose of providing the perceived need: the physical conditions of the place – "the place is desolated" and the scarcity of resources - "Five loaves and two fish." Likewise,

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[10] BROCK, B., *Christian Ethics in a Technological Age*, (Grand Rapid, Michigan/ Cambridge, UK, 2010), p. 175
[11] For the foregoing analysis I will use the version of the New American Standard Bible.

developmental actions typically face hostile conditions that work against the developmental objective. Environmental and physical conditions of the location play a crucial role in that sense. Isolation is in itself a cause of underdevelopment and deprivations. Besides, the scarcity of means is the archetypal economic problem.

- In the gospel's passage, the solution coming from outside - "Shall we go and spend two hundred denarii on bread and give them *something* to eat?" - is rejected - "How many loaves do you have? Go look!". Likewise, developmental options have a strong preference for those alternatives that foster auto-development by getting the best out the proper resources.

The question arising at this point is how to get the best out of scanty resources in order to solve the necessity. An uncritical interpretation of the biblical passage expects a subsequent miracle. Is Jesus the one who feeds the population? Certainly. Is the entire episode merely about a miracle? No. History tells us that the economic problem has typically been solved along the time by another sort of miracle, namely continuous technological progress. Certainly, technology is crucial to overcome the limitations that characterized the human life, among them, the hostile conditions and the relative scarcity that human societies have to face when it comes to surviving or to achieving better conditions of life. Now, should technology be considered a sort of miracle on which humanity should hang its hopes uncritically? Surely not.

The expectation of a miracle in the biblical passage must never overshadow the figure of Jesus, the disciples or the people gathered in the dessert. The miracle is not the message; it

is not even relevant, if any miracle of multiplication ever happened. The hopes entrusted to technology must never overshadow the authentic causes of development.

If we limit ourselves to an uncritical interpretation of this passage, a sort of miracle-mind reading veils a richer theological sense of the narration. What could be this richer interpretation? I base my interpretation on the exegesis carried out on the passage by J.A. Grassi[12]. Later in the passage Jesus commands the people to "sit down by groups on the green grass. They sat down in groups of hundreds and of fifties." This command precedes immediately the "multiplication" and "distribution" of the food, and such sequence is highly significant. Jesus' "miracle" does not consist as much in a mere multiplication of the food as in getting people to encounter each other, forming communities. Such personal encounter between human beings who are close physically but far apart spiritually is a real miracle. Jesus is both the agent for this "miracle" and the object of this encounter. The need for food is a deeply human pretext that Jesus uses to achieve a higher objective than the most apparent and basic goal. This basic goal would be an authentic and personal communication between people. It is through this personal communication between people that God reveals his Word and power, making true the entreaty that "where two or three have gathered together in my name, I am there in their midst" (Mt 18, 20). The need for food is the human mediation that makes the caring God's presence possible and vivid amidst the human community by congregating the people in true solidarity. This interpretation by Grassi is perfectly coherent with his explanation of the historic event that could inspire the passage. According to Grassi,

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[12] GRASSI, J.A., *Loaves and Fishes. The Gospel Feeding Narratives* (Collegeville, Minnesota, 1991)

Jesus' question, "How many loaves have you?", as well as the directive, "Go and see", point to a non-miraculous element. Jesus trusted in the biblical tradition that God mysteriously multiplies bread that is shared. He then directed the disciples to feed the crowd by beginning the process of sharing through the search for loaves among the crowd. Jesus' initiative resulted in an astonishing miracle of sharing that resulted in bread for everyone with even a large amount left over.[13]

Sharing is not a spontaneous attitude in human beings. We only share with those who are very close to us. By making people sit together and talk among themselves, Jesus gets people to meet each other, to recognize others as members of their own group. Jesus creates communities where each one recognizes the other as part of the same community of life. In the first place, people start sharing life. Once this happens, spontaneously, people share what they have. Moreover, this starts a virtuous circle, since, by sharing the goods, the communitarian sense is reinforced. The communication of life gives rise to the communication of goods and at the same time, the communication of goods makes authentic the communication of life. Jesus himself is the starting point and driving force of this process. The people, however, have not been diminished by the action of Jesus. On the contrary, they have been enhanced, empowered; they have become the real protagonists. The resources, the means, were already within themselves, unbeknown to them. The strength was in them, but it needed to be activated, and Jesus has activated it by making them a community, community of communities. The strength is in the community of people.

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[13] GRASSI, J.A., pp. 47-48

Because Jesus is the authentic bread of life that makes the Christian community possible, all are members of the community by participating in this unique bread. Thus, the most profound theological sense of participation is grounded in the participation in the very same person of Jesus Christ who is the definitive and most perfect commonwealth for the humanity.

Is this of any relevance for our reflection on technology and development? Surely it is. Technology, as in the gospel, is not a miracle in itself. Its miraculous appearance must never veil the real protagonist of the process of development which is the people. An excessive reliance on the possibilities that technology brings about for development makes that development become identified with technology innovation. At the same time, technology has acquired the aura of a magical, almost miraculous, panacea to apply in developmental issues for the overcoming of situations of necessity and deprivation. Can we expect miracles from technology? The passage of the multiplication of bread reminds us that the people are the main resource for the overcoming of bad conditions of life and that this latent energy needs to be activated, by empowering them. Does technology serve the goal of empowering the capacities of the people? As we will see further, experts in development insist that human capabilities are the key for development and that technological capabilities are crucial in that process in our current context. However, the biblical passage also reminds us that true strength is in the community, that the creation of communitarian bonds is the real activation of this latent power. The community of sharing, the community of participation, is the key element. In recent decades, technology has become king in the quest for development where redistribution used to play an important role. Nowadays no one refers to redistribution when it comes to promoting development.

Development, it is argued, is only possible by unstoppable growth; under such conditions, who might care about redistribution? Still, with Jesus, I believe that God multiplies bread that is shared.

2. The hermeneutical key: the theological category of mediation.

Before concluding this theological framework, it is necessary to provide a theological hermeneutic key. The category of mediation, I think, is the one adequate for the task.

In terms of theology we hardly need to justify this category: mediation is simply the way in which God, Creator and Absolute, reaches towards us, creatures living this temporary life in earthly history. The History of Salvation is the history of Revelation, and this earthly history, with its worldly conditions, is the means by which Revelation comes through. Jesus, God and man, is the definitive mediation.

Thus, it is important to discern that, in this earthly history of salvation, conditions, situations, circumstances, material things, etc., may well serve as means for a higher goal that might not be evident. In any situation, it is important to distinguish between the end to be served and the means to serve that end. In this sense, the Social Doctrine of the Church maintains as the basic economic principle that "the economy exists to serve the human person, not the other way around."[14] Likewise, our interpretation of the passage of the multiplication of the bread coheres with this hermeneutics. Karl Rahner elevates this

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[14] United States Conference of Catholic Bishops (1986), *A Decade After "Economic Justice for All"*, p.6

sacramental sense that I have described to a higher level when he says in one of his homilies that

> God gives us technology in order that we may have earthly bread and be able to multiply it so as to feed the great multitude in the wilderness of this world. This miracle, whereby technology multiplies the loaves, is granted to us so that we may have time to desire God's bread and satisfy our hunger of eternity. And we, like the people in that other wilderness, are tempted by the miracle to want still more and to make God king of our technology[15].

Conclusion

To conclude, I argue that such theological framework has revealed for us a crucial connection between the principle of participation and the reality of human community in the context of development that is applicable to the contribution of technology for development. This is a referential starting point for this thesis. Indeed, to a great extent, this thesis reflects upon how participation and community relate to Information and Communication Technologies in the quest for development.

The above theological framework is intended to inspire the theological appraisal of the role of ICT for development. However, all the ideas and categories so far considered need a further qualification. To start with, we need to qualify the conception of development that has been hinted at in this chapter. This task will be the subject of the next chapter.

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[15] RAHNER, K, *Biblical Homilies*, (New York, Herder and Herder, 1966), p. 69

CHAPTER 2 - AN ETHICAL CONTEXT FOR OUR QUESTION: DEVELOPMENT ETHICS

Introduction: The Question of Development
1. **The Capabilities Approach to Development**
   1.1. General Overview: Sen's *Development as Freedom*
   1.2. The Capabilities Approach in the International Institutions
2. **Goulet and Development Ethics: The Role of Values for Development**
Conclusion: Values and Participation

Introduction: The Question of Development

This second chapter attempts to provide an adequate concept of development in accordance with the previous chapter. The approach adopted in this chapter is philosophical and, more explicitly, ethical. By providing philosophical grounds to the field of development, this chapter aims to accomplish two objectives. First, it aims to enrich and complement the normative ground presented in the first chapter. In that sense, the philosophical approach to development adopted in this chapter is consistent with the bases specified in the Introduction. Second, this ethical input provides the epistemological context for the subsequent reflection on the object of this thesis, that is, ICT.

In accordance with the objectives of this chapter, we can begin by asking what development is. The answer to this question is not an easy one. To begin with, the response is not univocal. Indeed, the way this question is actually answered depends on the perspective one adopts. Besides, the conception of development has evolved over time.

Thus, on one hand, if we consider a synchronic overview, we can notice a gradual shift from a reductionist economic phase to a more inclusive and integral conception of development. This shift seems to be a significant advance. On the other hand, a diachronic overview of current development trends reveals different perspectives - a political, an economical, a philosophical, an ethical, or even a purely pragmatic perspective - which results in different conceptions.

In practice, in the field of development, we witness a spectrum ranging from more theoretical approaches to more pragmatic approaches. In that sense, we need to distinguish between two basic notions of development, a normative notion and a descriptive one. This chapter deals with the normative perspective, while the next one will explore the effective praxis of developmental strategies. As we will observe, in development, theory and praxis greatly influence one another, particularly when it comes to the implementation of concrete policies.

Among the theoretical contributions to the quest for development, the interest of this chapter lies in the ethical perspective. Until the 1960's, development was almost exclusively a pragmatic application of economic theory and, often, of economic ideology. Basically, the existence of high levels of economic activity was equated with development. Denis Goulet, a philosopher, is considered the founder of a new discipline, development ethics, which is an attempt to evaluate critical and systematically the theory and practice of development from an ethical standpoint. Moreover, development ethics tries to ground the practice of development on ethical foundations. This perspective has given rise to various ethical approaches to development. Thus, besides Goulet, we can highlight the

contributions of Sen, Crocker, Gasper and Martinez Navarro, among others. Because of the restricted parameters of this thesis, I will limit my exploration to only two of them. First, I will consider Sen's capabilities approach because of his dominant role in the current understanding of development. Later, I will turn to Goulet's approach, which will be the approach adopted by this thesis.

1. The Capabilities Approach to Development

Today's dominant contribution to development ethics is the capabilities approach which has been developed simultaneously by Nussbaum in the philosophical realm and by Sen in the economic field. I open this section by presenting a brief exploration of the capabilities approach and of the concept of development that derives from it. Subsequently, I will explore the influence of this proposal on the international institutions concerned with development.

1.1. General Overview: Sen's *Development as Freedom*

The capabilities approach aims at offering an alternative view of the attainment of human well-being in contrast to mainstream *welfarism*. In order to depart from welfarism, Nussbaum and Sen focus on human *functionings* and *capabilities*, the two basic concepts that ground the approach and that are defined in the following terms:

> The life that a person leads can be seen as a combination of various doings and beings, which can be generically called *functionings*. […] The *capability* of a person refers to the various alternative combinations of functionings, any one of which (combination) the

person can choose to have. In this sense, the capability of a person corresponds to the freedom that a person has to lead one kind of live[16].

Consistent with this focus, development is understood in terms of *human* development. More explicitly, development is understood as human *self*-development, since the person herself becomes the main protagonist of her own development. As L. Bruni observes, "ultimately, the capabilities approach argues that autonomy and agency are important elements in contextualizing human well-being. These concepts lay down the theoretical foundations for the human development paradigm."[17]

Consequently, the appropriate strategy for development suggested by the capabilities approach consists of providing those conditions that make possible for the people to exercise their natural capabilities. Sen calls those conditions "freedoms". In his own words:

> Development [is] a process of expanding the real freedoms that people enjoy. […] Viewing development in terms of expanding substantive freedoms directs attention to the ends that make development important, rather than merely to some of the means that, inter alia, play a prominent part in the process. Development requires the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance of overactivity of repressive states. […] Freedoms are not only the primary ends of development, they are also among its principal means[18].

This brief portrayal of Sen's contribution to development allows us to observe that this capabilities approach, as well as the subsequent developmental tactic, seems to fit the

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[16] NUSSBAUM, M., and SEN, A., "Introduction" in NUSSBAUM, M., and SEN, A. (eds.), (1993), p.3
[17] BRUNI, L. et al., "Introduction" to *Capabilities and Happiness* (Oxford – New York, 2008), p.2
[18] SEN, A., *Development as Freedom* (New York, 2000), pp.3&10

terms in which participation has been described in the first chapter as human empowerment. Indeed, this approach pursues the empowerment demanded by our conception of authentic participation.

1.2. The capabilities approach in International Institutions.

This approach to development has been officially adopted by the international institutions concerned with development. Various and abundant documentation issued by those institutions during the last two decades has gradually embraced the capabilities approach. Nowadays, we can say that all of the international institutions univocally support this approach as the most adequate to be applied in the current context of globalization and the "Knowledge Society". This category of "knowledge society" seeks to capture the perception that the main source of dynamism for today's global society is knowledge. This notion of "knowledge society" and the capabilities approach run in parallel concerning development. This convergence is of the utmost importance for the consideration of the role of ICT in development and will be explained in detail in the next chapter.

For now, I will limit the discussion to an exploration of the notion of development in international institutions as drawn out of the capabilities approach. Several international institutions deal with developmental policies, among them the World Bank, the United Nations Development Program, the United Nations Educational, Scientific and Cultural Organization, the United Nations Conference on Trade and Development, the World Business Council for Economic Development, the World Economic Forum, etc. The limitations of this thesis render impossible the task of listing all their official documents

based on the capabilities approach. Instead, I will analyze only one significant document, namely, the 2010 Development Report Research Paper[19]. This Report reviews and sums up the concept of development held by the Human Development Reports issued annually by the United Nation Development Program since 1990. In accordance with this Report, development should be defined in the following terms, in accord with the capacities approach:

> Human Development aims to expand people's freedoms – the worthwhile capabilities people value – and to empower people to engage actively in development processes, on a shared planet. And it seeks to do so in ways that appropriately advance equity, efficiency, sustainability and other key principles[20].

From the Report, I would highlight several points of special significance as derived from the above definition, in particular:

1. Development is person-centered; it is human development, that is, development *by* the people *of* the people and *for* the people[21].

2. Because it is human-based, development is multidimensional, dynamic and holistic and involves an interconnection between the social, political and economical dimensions of social life[22].

3. Development is defined in terms of objectives. Well-being, agency and justice are the ends to be attained or expanded. Human development sets priorities among concrete objectives by applying principles like "poverty reduction, equity, efficiency, voice and

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[19] ALKIRE, S., Human Development Reports Research Paper 2010/01 (June 2010), *Human Development: Definitions, Critiques, and Related Concepts*
[20] Id., p.40
[21] Ib.
[22] Cf. Id., p. 39-40

participation, sustainability, respect for human rights and fostering the common good."[23] At the same time, by emphasizing objectives and ends, human development subordinates means to ends without diminishing the importance of means such as economic growth. This latter consideration is highlighted by the Report when it sustains that "[policies and analyses in human development] identify how powerful means such as economic growth best advance human development across time." [24]

4. An ultimate criterion to identify the ends to be attained is people's valuation. In that sense, the Report refers to significant ends as *valuable* ends. This ultimate criterion is basic for this approach, for "capabilities and functionings are beings and doings that people value. Functionings must be valued by those who achieve them. This means that development cannot be imposed without regard to people's values and preferences. Ultimately, if people do not value an outcome, then human development has not occurred."[25] I consider this last aspect of particular relevance for the proper formulation of a conception of development.

Having presented this dominant conception of what development should be in accord with the capabilities approach, we might wonder to what extent this approach regarding development satisfies the conditions presented above in the previous chapter. Those conditions can been summarized by stating that development should be defined in terms of human development and that it is crucially related to the building-up or reinforcement of communitarian bonds. This communitarian context is the necessary condition for true and integral participation within all those dimensions of human life on

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[23] Id., p.44
[24] ALKIRE, S., Human Development Reports Research Paper 2010/01, p.44
[25] Id., p.41

which human flourishing depends. Because human development requires the individual to be empowered and because community is the context for any true empowerment, human development demands that communities become the channel for such empowerment. Empowerment through the community makes the construction of the community compatible with individual empowerment and, therefore, makes human development possible. Without community bonds, there is no possibility for authentic human development.

The capabilities approach seems to fit this exposition, insofar as the capabilities approach is human-based, holistic, involves empowerment and human agency and focuses on ends – *valuable ends* - rather than on means. However, regarding this last aspect of valuable ends, the capabilities approach does not completely fulfill the conditions I identify as crucial components.

In the capabilities approach, people's values are of high relevance, as we have noticed. However, values are considered as an outcome of processes of development or, at best, as a final criterion for accepting or discarding possible outcomes. In this sense, values are more like preferences rather than values understood in a strong sense. By values in a strong sense, I mean those internal normative principles that shape one's own identity. These values, essential for authentic development, are not given sufficient or adequate importance in the capabilities approach. I argue that those strong values are primary for human development and that they must be at the very foundation of development. Moreover, I argue that those values are the driving force for authentic development. This stance explains why this thesis prefers Goulet's approach instead of the capabilities

approach as the ethical grounds for development. This particular conviction about the importance of values drives my explanation in a brief, but significant, account of Goulet's insights on development ethics.

2. Denis Goulet and Development Ethics: The Role of Values for Development

In this section, I do not intend to present a systematic exploration of Goulet's thought. Instead, this section will be restricted to those aspects most relevant for the arguments this thesis.

An initial point to highlight is that Goulet's insights and the capabilities approach share a remarkable number of points in common. To start with, both adopt the perspective of human development, a human-centered conception of development that is used to oppose an ethical alternative to mainstream developmental strategies. Likewise, both approaches stress freedom and human agency as oriented to self-development. Besides, both approaches focus on objectives, ends, as the criterion for undertaking and judging developmental actions. However, Goulet's contribution emphasizes those elements that I find defective in the capabilities approach and that Goulet meets, specifically the different treatment of values. For Goulet, development is strictly related to values.

Goulet's ethical approach to development starts by raising a question: "development for what?"[26] This question is not naive at all; it implies that developmental actions need to be justified and that, when it comes to development, nothing can be taken for granted. This

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[26] GOULET, D., *Development Ethics*, p.27

question poses a judgmental yoke over the theory and praxis of development, subjecting development to ethics. Specifically, Goulet subjects development to values.

Goulet distinguishes – though not explicitly – two different sets of values. Regarding the first kind of values, he speaks of them as methodological instruments. In that sense, similar to the capabilities approach, Goulet refers to objectives and goals that determine the proper direction to follow in developmental action and that must be the criterion for judging the actions implemented. Thus, the values of justice, human enhancement, and spiritual liberation[27] are invoked as the goals to be pursued by developmental actions. At a higher level of specificity, Goulet refers to optimum self-sustenance, esteem, and freedom[28]. To a great extent, those objectives and values can be identified with the ones portrayed by the capabilities approach. However, as we will notice later, Goulet interprets all of them in a more profound and transcendental sense.

In ultimate terms, these goals point to the archetypical ethical quest, that is, happiness or the good life. Hence, the good life is the master criterion for development. In defining the good life, the important elements are those values that identify a certain conception of the good life. Goulet, along with the capabilities approach, identifies the good life in qualitative terms, but Goulet also goes beyond the capabilities approach when he characterizes development in existential terms. As he says,

the main criterion of development is not increased production or material well-being but qualitative human enrichment. […] The ultimate goals are those of existence itself: to

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[27] Cf. GOULET, D., *Development Ethics*, p.27
[28] Cf. Id., p.41-48

provide all humans with the opportunity to live full human lives. Thus understood, development is the ascent of all persons and societies in their total humanity[29].[…] Judgments about the greater or lesser quality of life can be made only with reference to what constitutes human happiness and, more fundamentally, to what being human means[30].

Goulet seems to be conscious that any definition of the good life requires a concept of human being. In the same way that any definition of the good life embodies a set of values, a certain concept of human being also embodies a set of values. In this case, those values are not purely objectives or goals to attain. This second kind of values pertains to the inner sphere of the human being and is prior to the first type. This sphere is the realm of existential and ultimate meanings and identity. Because this level is primary to those values identified as goals, this level is prior to any other criterion when it comes to developmental choices. In that sense, in general terms, "achieving development is not a self-validating absolute goal but a relative good, desirable only with reference to a particular view of the meaning of life." [31]

Those inner values - mainly identity and the set of meanings, especially, the ultimate meaning of life – are, indeed, intrinsic to life itself and, subsequently, to the conception of good life. Should those values be overridden, the whole idea of development would lack an adequate orientation or even justification, as Goulet suggests when he asserts that there may be good reasons not to desire development at all, since "ultimately, the only

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[29] Id., p.7
[30] GOULET, D., *Development Ethics*, p.38
[31] Id., p.37

justifiable goal of development is to make people happier. That is also the only justifiable goal for not developing."**[32]**

By putting emphasis on those inner values, Goulet invites us to an immersion in the world of meanings, identity, and spiritual values, an immersion in the realm of culture and spirituality, a voyage to the depth of human existentialism. For Goulet, such human existentialism is transcendent. Meanings and identity, however integral to the individual they may be, do not exclusively pertain to him. On the contrary, those values are conveyed to the individual by the concrete community to which he belongs and in which he participates. The individual shapes his own set of values and his own identity within a particular community. In this sense, those existential values are cultural. Hence, culture, tradition, and community are at the root of the concept of human being, and, subsequently, at the base of the definition of the good life. The idea of development, consequently, must be firmly grounded in those bases. Consistent with this stance, Goulet states that

> a totally different concept of development is needed, one derived from within the diverse value system cherished by living communities. It is from within these values, these networks of meanings, loyalties, and patterns of living, that the proper ends of development and the most suitable means for obtaining it are to be defined[33]. […] Sound development ought to be grounded in traditional and indigenous values since ultimately both economic and social development are means to a larger end, the fostering of human development. Integral human development, however, rest on a secure sense of identity and cultural integrity, and on a system of meaning to which one can give enthusiastic allegiance. These values are so vital that economic and institutional modernization need to be judged in the

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[32] Id., p. 197
[33] GOULET, D., *Development Ethics*, p.141

light of their contribution to these values. Material improvement should not, and need not, be obtained at the price of general impoverishment of the spirit. This conviction lies behind the search for change strategies which take the traditional values of living communities as the foundation upon which to build humane forms of development[34].

All this insistence on values, identity, spirituality, etc. may seem to veil somehow the need for minimum conditions of material life. On the contrary, this approach is fully concerned with basic human needs. Moreover, it is concerned with *all* basic human needs, where material and spiritual needs come together into an integral vision of human needs. Because it begins from an integral conception of the human being, this approach avoids the reductionism that characterizes mainstream stances of development. As opposed to mainstream conceptions, this approach highlights what is perilously neglected by them: the primary relevance of values. By putting the emphasis on spiritual values, Goulet is not less conscious of basic human needs, but he establishes a hierarchy of human values, being true that "having a meaningful life may well be the most basic of all human needs."[35]

Besides, what are human needs? What is an adequate level or standard of material well-being? How much is enough? In the end, these questions return to the person, or rather to the community to which one belongs, for as Goulet observes, "human needs are to a large extent derived from cultural values[36]. Every society formulates a strategy for its survival, for access to resources, and for interpreting the information that comes available

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[34] GOULET, D., *Development Ethics*, p.141
[35] Id., p.206
[36] Id., p.140

to it. The strategy embraces many values, some of which lie at the core of a community's identity."[37]

Since developmental action proceeds mostly from Western societies – the "developed" ones – the standards applied to respond to the above questions are typically Western. And not only the standards, but also the goals and the means are Western–centered. Ultimately, the very idea of development is Western. By way of example, as we will see in further chapters, the role of technology – and more specifically ICT – for development tends to be analyzed from these Western patterns. In opposition to that bias, Goulet reminds that, while such a mentality persists, development actions are condemned to failure either because they will not produce genuine well-being or because they simply will make a society disappear due to being dissolved in the mass. In current terms, development strategies aim at creating a convergence between societies and cultures in accord with Western standards scales of values, desires and wants, and socio-political conceptions. This homogenization renders development a unique path that everyone must follow. However, as we have asserted above, what Western society cannot offer is a horizon to pursue, since it does not know where it is going.

Ultimately, Goulet is not merely offering an alternative perspective on development for poor countries; he is formulating a strong criticism of the modes of the Western society by rejecting its development patterns. In fact, when it comes to those Western developmental patterns, it makes more sense to speak of *modernization* rather than of development, since its logic of "development" relies basically on the possibilities of science

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[37] Id., p.137

and technological innovation which have dramatically replaced transcendental values in the pursuit of efficiency.

While it is true that these western strategies has responded to the challenge of the quest for basic material needs, as many philosophers and thinkers claim[38], such "development" has generated a human craving for other basic needs, condemning the Western society to that crisis regarding the meaning of life that characterizes modernity (and post-modernity, especially). Goulet, consequently, rejects such a *secularized* conception applied to development, that, in his view, is based on two myths, namely, "(a) that traditional values cannot harbor latent dynamism suited to promoting development and (b) that a reductionist form of rationality based on science and technology is an essential ingredient of modernity." [39]

Because it dismisses uncritically the so-called traditional values, the "modern" scale of values in western society has lost the sense of transcendence so inherent in human identity, to the conception of life, and to the conception of happiness. This sense of transcendence, by contrast, is strongly present in most of the cultures and communities commonly described as "not modernized" - those communities that are typically the object of development actions. Since modernization and development, at any rate, are not equivalent, development is not a replacement, but a complementation. Development should, therefore, provide genuine human needs, not replace some needs for others, depriving

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[38] Among those thinkers, Erich Fromm and his book *The Revolution of Hope* is paradigmatic for this sense. The list of all the authors that share a common position on this theme would be very long.
[39] GOULET, D., "Obstacles to World Development" in *World Development*, Vol. 11, No. 7 (1983), pp. 609-624, p.620

communities and societies of their invaluable cultural and spiritual richness so crucial for their happiness. Based on that idea, Goulet supports a development-from-tradition approach or "endogenous self-determined development" about which he asserts that

> the central premise of this paradigm states that the goals of genuine development, and not only its means, must not be borrowed from countries already "developed". […] Not that modern ideas, behavior, and technology are to be repudiated, but rather that they must be critically examined in instrumental fashion to determine whether or not they can contribute to the sound human development of individuals and communities. […] It becomes essential, therefore, to confront traditional images of the good life and the good society with modern alternatives to see which are more truly developmental[40]

Following this insight, I argue that genuine development becomes a context for the mutually beneficial encounter of societies between the modern Western world and the traditional cultures. Development must not be regarded as a one-direction action from the Western world of possibilities to non-Western communities in need. On the contrary, developmental action, when rightly implemented, may well render benefits to the impoverished rich world by transmitting those lost spiritual values that are so abundant in traditional or even in the so-called primitive cultures. Among them are the importance of the collective and the richness of sharing, values so alive where affluence is unknown and where individual capabilities have not isolated the person in self-sufficiency individualism, those values that identify anyone as part of a community of life.

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[40] GOULET, D., *Development Ethics*, pp.88-89

In the end, Goulet's position defines life in transcendental terms, to identify human life as an existence with a final end that every collective conceives and expresses through the own corpus of values, meanings, and senses. With respect to the final end, everything else is no more than means, including basic human material needs, since physical existence serves this final end. It is this final end that makes life ultimately meaningful.

Still, someone may claim that this entire perspective is purely philosophical and difficult to implement in reality, where, in the end, hard economic laws need to be applied. However, some notable economists – as well as other scientists – have reached, at some point in their reasoning, the question about life itself. Borrowing the words of the economist Alfred Marshall, Goulet quotes: "The economist, like everyone else, must concern himself with the ultimate aims of man" [41]. Likewise, Pollock, also quoted by Goulet[42], concludes that any definition of genuine development must comprise economic growth, equity and distribution, participation and transcendental values. Thus, I argue that, when it comes to development, we need to address the actual urgent situations of deprivation within a wider horizon that integrates a meaningful sense of life, within the transcendental scope that defines human life. As Goulet puts it, "there are two levels at which one may pose the question 'development for what': the level of ultimate meanings and that of practical choices."[43]

Goulet is aware of this lack of orientation that the Western society - and, with it, its conception of development - undergoes. But he is also aware of the necessity of a serious commitment to the conditions that a great part of humanity suffers. Both realities, in the

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[41] GOULET, D., "Obstacles to World Development", p.609
[42] Id., p.621
[43] GOULET, D., *Development Ethics*, p.38

end, reflect the same concern: to assure that humanity could enjoy the possibility of a future. Development as currently undertaken seems to assume that values and food are permanently incompatible and that the simultaneous pursuit of both is destined to clash. In opposition to this stance, Goulet – who is not afraid of conflicts - finds in values the driving force that could lead to the overcoming of the deficiencies of both the rich and the poor world. In his search, he looks into the depths of humanity to defend the argument that values can be the most powerful driving force for development:

> History must be constructed by its human agents in ways that leave history itself open to transcendence. […] For millions of religious believers […] transcendence points to a life after this life, a universe beyond this material world, which alone confers full and final meaning to human efforts deployed in time. […] Human effort must not be alienated from human tasks by pointing toward transcendence; on the contrary, that effort may draw from its orientation to values beyond itself a new dignity, urgency, and depth. To this extent, therefore, a transcendent meaning system can be a powerful development force: it is the vector of a high coefficient of secular commitment[44].

Conclusion: Values and Participation

Before bringing this chapter to a close, one question needs to be answered. Does the approach to development adopted in this chapter respond to the bases established in the first chapter? More explicitly, does this approach fulfill the requirements of authentic participation?

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[44] GOULET, D., *Development Ethics*, p.214

We can summarize very briefly Goulet's position on values by affirming that development not only should respect those values that identify a certain culture or community; it should be thoroughly grounded on them, and, moreover, genuine development truly enhances those values. Within a certain community, participation is the practical way that values are adopted in the developmental process. Participation is the materialization, concretion and implementation of those values embodied by that community. In that sense, participation is the crucial means for values in the context of development.

Goulet observes that there are various kinds of participation depending on different kinds of development[45]. His analyses of participation detect three sources of participation[46] - top-down (authority or elites), grassroots level, and external source – and three separate moments of participation - diagnosis, decision, and implementation[47]. Goulet further uses those analyses to basically discriminate between *authentic* and *inauthentic* participation. To what does he refer by the terms *authentic* participation? In his own words,

> *Authentic* participation means vesting true decisional power in not-elites people, and freeing
> them from manipulation and co-optation. […] The most difficult form of participation to
> elicit and sustain is also the most indispensable to genuine development. This is
> participation that starts at the bottom and reaches progressively upward into ever-widening
> arenas of decision-making. […] It matures into a social force which may form a critical

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[45] Cf. GOULET, D., *Development Ethics*, p.95
[46] Cf. Ib.
[47] Cf. Id., p.96

mass of participating communities progressively empowered to enter into spheres of decision or action beyond their immediate problem-solving arenas[48].

Such participation that flows from the very bottom is the one that materializes the community's values in the decision-making process. Since values are indispensable for genuine development, such authentic participation, by embodying those values, is the key to genuine development. That is why Goulet asserts that "participation […] is an indispensable feature of all forms of development."[49]

Furthermore, participation is not only the embodiment of values in the decision-making process for a certain community. Participation also is a driving force that stimulates self-development by making those values significant and able to be implemented beyond the spiritual sphere of meanings and identity. It also makes the own identity and set of meanings valuable outside the community. This stance leads Goulet to contend that development strategies start with the restoration of self-esteem[50]. In that sense, Goulet finds that the best conceptualization for participation in the matter of development is in terms of *moral* incentive[51]. Authentic participation is the moral incentive for genuine development, which is defined as self-development. Supporting this idea, Goulet quotes Paulo Freire who affirms that, in genuine development, people turn from objects to subjects of their own social destiny[52] and states that "the priorities [of this alternative view of development] are poverty eradication, reduced inequality, resistance to privatization, and empowerment of

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[48] GOULET, D., *Development Ethics*, p. 96-97
[49] Id., p.98
[50] Cf. Id., p.138
[51] Cf. Id., p.97
[52] Cf. Id., p.91

poor populations by granting them effective voices *as bearers of ethical rationality* in substantive decision-making arenas."[53]

Nevertheless, as Goulet acknowledges, the acid test for participation in development – or, in other terms, for community values for development – goes far beyond the boundaries of a given community. We must never consider the community as an isolated or closed collective; otherwise, community could be taken as a synonym for sect. At any rate, communitarian values of identity and meaning must render such society a sect. If it were this way, we could well speak of anti-development. I argue theoretically that genuine development must render a community open to and interactive with other collectives, societies and cultures. Moreover, the current globalized reality reminds us that such interaction tends to be unavoidable and imperative. Community identity and values - and the participation that materializes them in the decision-making arena – must be proved sustainable in the search for development in a wider – on the *macro* level – developmental context. As Goulet says, "development theorists and practitioners have long known that participation can succeed in micro arenas: for example, small-scale projects, local cooperatives, and limited issue associations. Many thought, however, that participation is not feasible in macro arenas - national or sectorial policy or large-scale projects."[54]

In this global context, the key is communication and information. Information and communication render worldwide relationships possible and, at the same time, make isolation problematic. Today there is little or no real opportunity for development outside

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[53] GOULET, D., "Global Governance, Dam Conflicts, and Participation" in *Human Rights Quaterly*, vol. 27 (2005) 881–907, p.906. The emphasis is mine
[54] GOULET, D., "Global Governance, Dam Conflicts, and Participation", p.905

this network, and, since there is no possibility for genuine development except through authentic participation, participating in this network has become crucial. In that sense, Goulet admits that, "participating groups also need *information, documentation, expertise and funds.*"[55] In a word, we need to confront our conception of development based on values with the mechanisms of information and communication that both channel and boost the complex network of the globalized society and its machinery. This is the task for chapter four below. But first, we need to consider ICT and the role that mainstream conceptions attribute to them for development. This analysis will require that we reconsider the capabilities approach introduced above.

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[55] Cf. GOULET, D., *Development Ethics*, p.101. The emphasis is mine.

CHAPTER 3 – INFORMATION AND COMMUNICATION TECHNOLOGY:ITS ROLE AND IMPLICATIONS FOR DEVELOPMENT

Introduction
1. **The Hermeneutics of ICT: ICT in the Context of Social Change**
    1.1. The Global Society
    1.2. The Information Age: the Informational Society
    1.3. The Network Society
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    Conclusion: ICT in its framework
2. **ICT for Development**
    2.1. Knowledge for Development: The Capabilities Approach Put in Practice.
    2.2. ICT For Development In The Knowledge Society/Economy
        2.2.1. ICT Strategies for Economic Growth: The Quest for Innovation
        2.2.2. ICT's Contribution to Direct Human Development
Conclusion

Introduction

This chapter deals with the material object of this thesis, that is, Information and Communication Technologies[56]. As mentioned above in the Introduction, ICTs are regarded as a key factor in attaining the goal of development, as much in affluent western economies as in poor peripheral societies. The objective of this chapter is to provide this thesis with the rationales that sustain this affirmation.

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[56] From now on, ICT

A first step in this exploration will be to understand what ICT is. Materially, ICT is a particular sort of technology, but, more broadly, ICT means much more than solely a technology. ICT represents a revolutionary mechanism that pervasively influences all dimensions of a society which is undergoing profound changes and diverse processes of restructuring and reconfiguration. The development, use, expansion, and diffusion of ICT are, simultaneously, a cause and an effect of social, economic, political, and cultural movements taking place since the late 70's. Therefore, we need to understand this phenomenon of ICT in its own social, economical, political and cultural context. In other words, it is necessary to explore the hermeneutics of ICT. This will be the task of the first section of this chapter.

This hermeneutics of ICT constitutes, at the same time, the socio-economic context for the current trends regarding development. I argue that the connection between ICT and development is related to this hermeneutics, and that the ethical ground that supports this connection is the capabilities approach. Examining the rationales of this connection between ICT and development is the task of the second section.

1. **The hermeneutics of ICT: ICT in the context of social change**

If we separate ICT into its components we naturally obtain two elements, namely, information and communication. These two elements relate respectively to the two paradigms that characterize and shape our current society, and, in terms used by the

sociologist Manuel Castells[57], are "Informationalism" and "Networking". These two elements, in turn, shape the global society. The substance of this global society appears to be, in turn, knowledge. Thus, a cluster of new nomenclatures and categories try to capture the essence of today's restructuring society. Among them, Information Society, Network Society, Global Society, Knowledge Society, and Knowledge Economy are the most relevant ones. This section is devoted to their analysis. In one or another way, ICT appear to be essentially correlated to them and we must study this correlation in order to fully understand the effects that ICT can exert over development.

All those categorizations are intrinsically interrelated in such a way that it is not possible to consider any of them without referring to the rest. However, in the interest of clarity of concepts in the following exposition, a separate subsection will be devoted to each of them.

1.1. The Global Society

The use of the category of "Global Society" instead of *globalization* responds to the interest of this thesis in stressing the social context in which economic and cultural issues must be embedded. In practice, I will interchangeably use both denominations.

Globalization as a phenomenon, integrates political, economic, cultural, and social dimensions. Though we speak of integration, indeed, all those dimensions do not coexist

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[57] Castells' renowned and paradigmatic work "The Information Age" is generally considered an essential reference for the understanding and interpretation of this new informational era. I will make generous use of its insights.

with each other pacifically, but rather in a continuous clash. It is difficult to determine which one of these dimensions is dominant; it depends on the particular analyst's standpoint. Some analysts like M. Castells, J. Andersson, R. Narula, coming from different perspectives (the first one is a sociologist, the second a politic analyst, and the third is an economist) agree in attributing the origin of the globalizing phenomenon to social and political causes rather than purely economic factors. However, it is a common belief that the influence of economic factors is of primary importance for the current development, expansion and pervasive diffusion of globalization. If this is true, economic driving forces would be impacting strongly in the restructuring that social, political and cultural institutions are going through. By doing so, economic factors would create a deep bias with important repercussions for the social, political and cultural dimension of development.

Narula, an analyst of the phenomenon of globalization, analyzes globalization processes in terms of changing institutions. By *institutions*, he means "the set of common habits, routines, established practices, rules, or laws that regulate the interaction between individuals and groups."[58] This perspective allows him to interconnect all the dimensions and factor involved in globalization, and also to analyze the dominant role of the economic factors. In that sense, he holds economic liberalization policies as a main responsible factor for the profound restructuration of institutions involved in the globalization process. As he puts it,

> Liberalization is an important force in economic globalization since it requires a multilateral view on hitherto domestic issues and promotes interdependence of economies. Liberalization has acted as a major 'shock' to the institutions within most countries, since it

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[58] NARULA, R., *Globalization and* Technology (Polity Press, Cambridge, UK, 2003) pp.31-32

has introduced not just new actors, but it has also required major restructuring of existing institutions.[59]

This emphasis on the liberalization policies as a key driving force of globalization is shared by other authors. For Chaves[60], globalization would be characterized by three dynamics, namely, *liberalization, privatization*, and *deregulation and flexibilization*. The optimal mechanism for those liberalization processes would be, in the opinion of both authors, technology, specifically, the revolution of the ICT. As Chaves explains[61], ICT would serve to *legitimate* and to *accelerate* – by breaking barriers - liberalization.

Because liberalization impacts not only economic institutions but also social, political, and cultural institutions, these dynamics are of utmost relevance for development, since development, in the end, consists in the evolution and eventual change of some or all the institutions that constitute a certain society. Institutions, as Narula acknowledges[62], typically change very slowly since they are subject to various types of inertias. Because of its own nature, liberalization leads to deep processes of de-institutionalization and de-configuration. This dynamism is exacerbated by the globalizing trend and by the presence of the powerful mechanism of technological innovation whose best expression is ICT. This collusion between liberalization and ICT in the context of globalization fosters a process of accelerated change of institutions. This acceleration clashes with the natural inertia of social institutions, thus provoking various forms of social and cultural breakage that affect

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[59] NARULA, R., p.32
[60] Cf. CHAVES, J.A., et al., *Transformación Cultural, Economía y Evangelio* (Editorial San Esteban, Salamanca, 1999), p.117
[61] Cf. CHAVES, J.A. et al., p.118
[62] NARULA, R., p. 32

negatively the possibilities for genuine development. Ultimately, through this liberalization of institutions, economic modes of organization tend to predominate and to replace social, political and cultural interaction systems. We will see more about this later.

Regarding related matters, Narula distinguishes several inputs and several outcomes of globalization. Among them, he highlights: finances, ICT, and Multinational Corporations (MNCs), as inputs; interdependence, consumption, and standardization, as outcomes. Chaves, for his part, underlines finances, technology, and consumption as the elements that best portray globalization. As may be noticed, except for ICT, all of those constituents are of an explicitly economic nature. The enumeration of ICT among them may well make us suspect that ICT is strongly determined by economic interests. Nevertheless, however relevant and determinant economic driving forces could be for explaining today's society, we need to understand the economy as embedded is its wider social context, as we argued above. Thus, we need to consider the new social configurations that make this world develop in a globalized fashion: informationalism, networking and the predominance of knowledge.

1.2. The Informational Society: Informationalism or the Information Age

Castells's view on an emerging new society focuses on the growing relevance of information. For Castells, what characterizes the new society is the formation of new modes and structures of organization based on information. The theoretical approach that grounds his view is sociological, and it postulates that "societies are organized around human processes structured by historically determined relationships of *production*,

experience and *power*."[63] In spite of this sociological standpoint, Castells integrates his information approach into a changing capitalistic economic context. Information colludes with capitalism to give rise to a new social structure, which is "associated with the emergence of a new mode of development, informationalism, historically shaped by the restructuring of the capitalist mode of productions towards the end of the 20$^{\text{th}}$ century."[64] This characterization of the social structure as related to a mode of development tries to capture a new sort of integration between economy and social order. The integration between society and economy typically has relied on the mode of production. Instead, Castells makes the connection dependent on the mode of development, thus portraying a new social paradigm. By making this choice, Castells identifies the socio-economic relationship as dynamic, progressive, and projected to the future. The source of such dynamism is identified by Castells in a continuous generation and diffusion of information. In turn, he finds the indispensable instrument to be the technological revolution, in particular, ICT, to the extent that information generation and information diffusion are dependent on ICT. Such conjunction between information and technology leads Castells to call this emerging socio-economic organizational way "informational", since "*informational* indicates the attribute of a specific form of social organization in which information generation, processing and transmission become the fundamental sources of productivity and power because of the new technological conditions emerging in the historical period."[65]

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[63] CASTELLS, M., *The Rise of the Network Society* (Blackwell Publishing, Malden, MA, 2000), p.15. Italics in the original
[64] CASTELLS, M, p.14
[65] Id., p.21, footnote n.31. Italics in the original

However, neither information nor technologies exist by themselves. Both information and ICT need a substance. This substance is knowledge. Knowledge, indeed, is what undergirds the new mode of development. The new mode of socio-economic organization is knowledge. As Castells observes, ICT, information and knowledge are intrinsically interrelated:

> In the new, informational process of development the source of productivity lies in the technology of knowledge generation, information processing, and symbol communication. […] What is specific in the informational mode of development is the action of knowledge upon knowledge itself as the main source of productivity. Information processing is focused on improving the technology of information processing as a source of productivity, in a virtuous circle of interaction between the knowledge sources of technology and the application of technology to improve knowledge generation and information processing: this is why I call this new mode of development informational, constituted by the emergence of a new technological paradigm based on information technology.[66]

The scenery for the new social structure depicted by Castells would not be complete without another critical element: *networking*. Castell observes that one of the key features of informational society is the networking logic[67]. In other words, communication becomes the specific organizational logic and networking the organizational structure. Knowledge, and especially technological knowledge - or know-how - flows throughout a networking structure based on ICT. Participating in this network is the condition for entering into the new mode of development or, in other words, is the condition for participating in the new global society. However, participating in this new mode of development has deep

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[66] CASTELLS, M., p.17
[67] Cf. Id., p.15

consequences. It is important to notice that, for Castells, this mode of development –
described as informationalism - is not merely an economic paradigm, but that it refers to
the whole set of dimensions of society, especially including the generation of new cultural
patterns. As he puts it,

> modes of development shape the entire realm of social behavior, of course, including
> symbolic communication. Because informationalism is based on the technology of
> knowledge and information, there is an especially close linkage between culture and
> productive forces, between spirit and matter, in the informational mode of development. It
> follows that we should expect the emergence of historically new forms of social interaction,
> social control, and social change.[68]

As Castells observes, this "new social forms" does not emerge pacifically, but
dramatically. As mentioned above, development implies the alteration or replacement of all
order of institutions, and this can often be a painful process, especially when cultural
institutions are affected. Concerning the informational mode of development, because it is
based in a correlation between a continuous generation of knowledge and a flow of
symbolic communication, it not only implies a change or a replacement of cultural modes,
but also the redefinition of the very conception of culture. Culture, in the new paradigm
loses its institutional steady defining character in favor of a new conception in terms of
flows of information between nodes within a global virtual network. Consequently, for
Castells, the key issue is how to reconcile the Self and the Net in the framework defined by
macro-processes of institutional change connected to the emergence of a global system[69]:

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[68] CASTELLS, M., p.17
[69] Cf. Id., p.23

Then the key issue becomes […], in a world characterized by simultaneous globalization and fragmentation, how to combine new technologies and collective memory, universal science and communitarian cultures, passion and reason […] And why do we observe the opposite trend throughout the world, namely, the increasing distance between globalization and identity, between the Net and the Self? […] Thus, the search for new connectedness around shared, reconstructed identity.[70]

In the end, Castells argues that the social fragmentation is the result of this lack of communication between ideologically opposed groups. Based on this thesis regarding the Net and the Self, he refers to the potential of ICT as a tool of social cohesion.

1.3. The Network Society

Intimately related to informationalism, the new socio-economic order is also conceptualized as a "Network Society". Such a denomination proves to depict accurately the new informational way of organization, which is based and dependent upon flows of communication. Certainly, all kind of processes and operations in all social realms experience an increasing tendency to get organized around networks. Thus, for Castells, "networks constitute the new social morphology of our societies, and the diffusion of networking logic substantially modifies the operation and outcomes processes of production, experience, power, and culture."[71] Furthermore, Castells observes a sort of social determination[72] induced by this networking logic to the extent that, when it comes to

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[70] CASTELL, M., pp.22-23
[71] Id., p.500
[72] Cf. Id., p.451

communication, the flows of communication tend to acquire more importance than the content itself.

In explaining this tendency, the nature of the new modes of communication is of primary relevance. The new system of communication is based on a "digitalized, networked integration of multiple communication nodes."[73] Castells refers to this system, based on the ICT, as a communication system of "real virtuality", or rather, as a communication system that generates real virtuality. What characterizes this system is that "reality itself (that is, people's material/symbolic existence) is entirely captured, fully immersed in a virtual image setting in the world of make believe, in which appearances are not just on the screen through which experience is communicated, *but they become the experience*."[74] Two important consequences can be drawn out of this virtual nature of this networking organizational system. First, the new system of communication, as a matter of principle, is inclusive and comprehensive of all cultural expressions, which tend to become integrated. Second, possibilities of communication become dependent on the access and participation in the networking digital system. As Castells puts it, "all other messages are reduced to individual imagination or to increasingly marginalized face-to-face subcultures. From society's perspective, electronically-based communication is communication."[75]

The adoption of networking organizational structures, along with the emergence of informationalism as the existing mode of development, has induced a major reconfiguration of all social relationships. If informationalism has given rise to a new form of capitalism, to

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[73] CASTELLS, M., p.405
[74] Id., p.404. The emphasis is mine.
[75] Id., p.406

cultural reconfigurations, and to a social reorganization, networking, based on ICT, is at the same time a driving force and an indispensable means for informationalism. In this sense, it is hard to identify whether networking is precedent to the new mode of development or vice versa. In other words, it is a matter of debate whether the ICTs are responsible for the emergence of a new society or whether both society and capitalism have evolved historically into networking modes of organization through the massive adoption of ICT. Probably, both possibilities are simultaneously certain. In any case, as for Castell, networking, as an instrument, and informationalism make a good match:

> Networks are appropriate instruments for a capitalist economy based on innovation, globalization, and decentralized concentration; for work, workers and firms based on flexibility and adaptability; for a culture of endless deconstruction and reconstruction; for a policy geared toward the instant processing of new values and public moods, and for a social organization aiming at the supersession of space and annihilation of time.[76]

1.4. The Knowledge Society

Knowledge Society and Global Society are two sides of the same coin. As said above, Castells, observes that knowledge is the substance of the informational structure of the global society and, also, of the technology that materially supports it. At the same time, M. Dinu sustains that global society is what gives knowledge society its substance.[77] In a word, in the new informational and networking society, knowledge has become global. The creation, development, expansion, and diffusion of knowledge are, nowadays, global. It

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[76] CASTELLS, M., p.502
[77] Cf. DINU, M., "What is the Knowledge Society" in *Theoretical and Applied Economics*, 2, (2008), 519, 45-50

follows that knowledge is considered relevant knowledge only if it is projectable in global terms. In the extreme, outside the channels of global flows of information, certain knowledge is not only taken as irrelevant, but as non-existent. The logic behind this is that the conception of relevance has to do with the networking that characterizes the global society. As seen above, whatever lies outside the flows of the Network does not exist. Thus, any kind of knowledge outside the Network becomes marginal and excluded from global society. In that sense, Andersson observes that the idea of Knowledge Society is clearly an analogue of the idea of the Network Society.[78]

At this point, it is pertinent to ask what knowledge is. The response to this basic question is diverse. Castells holds an aseptic stance on the matter. For him, knowledge is "a set of or organized statements of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some systematic form."[79] However, in most cases, knowledge is not so accurately defined. Instead, scholars usually describe the content of knowledge in relation to its social, political or cultural functions. In the context of development, knowledge is mostly described in terms of its socio-economic functions. Under such conditions, defining knowledge is of no importance; what matters is to identify what kind of knowledge is relevant. As we will see in the next section and also in the next chapter, the determination of what knowledge is relevant is crucial when it comes to considering development. To advance a simple response, we can argue that the relevant knowledge – and consequently, "existent"– knowledge – has to do basically with science and technology. This is not at all peculiar,

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[78] Cf. ANDERSSON, J., *The Library and the Workshop* (Stanford University Press, Stanford, CA, 2010), p.97
[79] CASTELLS, M., p.17, footnote n.25

except for the fact that science and technology are strongly determined by economic interests. Thus, competition and innovation, the motivations that shape those economic interests - are the key words to conceive what relevant knowledge is – or simply, what *knowledge* is.

Within the realm of development, knowledge (as considered in broad terms) has always been a crucial element. Since the new social system – informationalism - is identified as a mode of development, global society turns out to be strongly dependent on knowledge. In turn, given that knowledge is strongly biased towards economy, it is clear that we must conclude that global society develops at the pace of economy. That is why the Knowledge Society runs in parallel with the so-called Knowledge Economy, or rather, we must say that both are the one and the same thing. In that sense, it is not possible to define what the "Knowledge Society" is without understanding what has been called the Third Way.

1.4.1. The Knowledge Economy

Castells reminds us once again that "what is specific in the informational mode of development is the action of knowledge upon knowledge itself as the main source of productivity.[80]" Such prominence of knowledge in the mode of production results in a new age where capitalism, along with social-political institutions and culture melt into a unique path of development: the Third Way.

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[80] CASTELLS, 17

J. Andersson relates that the crisis of capitalism as a mode of production along with social decline in democratic societies led, since the late 70s, to the search for new driving forces that could take society and economy out of their decline. Knowledge was found to be the adequate instrument to reshape both economy and society. Thus the worn out capitalistic socio-democracy model gave way to the paradigm of "Communities of Knowledge", also known as Knowledge Societies. According to Andersson, politician and social thinkers would have realized that the idea of a "mechanistic" functioning of capitalism was exhausted as the economic model. Besides, such a system would have induced an individualistic and anti-communitarian attitude, thus eroding the system of virtues and values inherent to citizenship. Against such a social backdrop, the infusion of knowledge on society and economy was supposed to promote an idea of social change as evolutionary and harmonious, a process of organic growth and inclusion[81]. Such an approach would reconcile economic progress and social cohesion. The key policy to adopt would be to foster the generation of communities of knowledge, which would play a double role. First, it would induce social cohesion and a strong feeling of citizenship by promoting the love for learning. Second, a community of knowledge would provide a continuous source for the stimulation of economy: social capital as a primary driver of improvement. The core of this community of knowledge is the market. In this new order, the market loses its "mechanistic" identity to become the point of reference that makes the reconciliation between individual and collective advancement possible. As Andersson puts it, community becomes a vision of the social as driven by the quest for self-improvement, while, at the

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[81] ANDERSSON, J., p.97

same time, recognizing the role of social interdependence for that improvement.[82] Under this Third Way, knowledge is strongly capitalized individually as well as collectively.

Having explained the rationales that caused the Knowledge Society to emerge, it is of primary importance to gain awareness of the inner logic behind the declaration of the market as the core of the community of knowledge. In the words of Andersson:

> The market is at the core of the notion of community. The market in communitarian terms must be socially embedded […] because it is considered crucial for the fostering of the virtues of competition and for the cultivation of aspiration and creativity and the continuous drive for improvement. […] The role of community is to foster the "love for learning", which is […] the primary driver of social mobility and economic dynamism.[83]

Out of this assertion, knowledge appears as linked to the market. In fact, in this new order, knowledge functions in a way that is as much capital as commodity, a factor for production and a good for consumption. At this point, the question about what relevant knowledge is arises again. All seems to point to economic interests, specifically the needs for competition and innovation, as the determining forces of the content of knowledge. As H.D. Evers critically asserts, "what kind of knowledge is *useful* is determined by the managers of large corporations and by helpful bureaucrats. […] Value of knowledge is determined by market forces."[84] Unaware of this criticism, Andersson defends the proposition that "knowledge is a tool for building a social democratic society made up of solidarity and universalism and

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[82] ANDERSSON, J., p.101
[83] Id., p.102
[84] EVERS, H-D., (2005), "Global Knowledge: the Epistemic Culture of Development", in HASSAN, R., (ed.), *Local and* Global: Social Transformation in Southeast Asia (Brill, Leiden &Boston), pp3-17, p.7. The emphasis is mine.

based on people's capacity to think critically. These virtues are understood as controls on the market."[85]We will see more about this particular critical aspect regarding the value of knowledge in the next chapter.

Beyond this knotty aspect of the value of knowledge, the Knowledge Society reveals a new focus on the economic use of resources of primary importance: the human capacity for learning becomes the main economic resource. At the same time, the human capacity for learning becomes crucial in the new trends of consumption. Considering this predominant economic dimension of the Knowledge Society, we can depict it, in the words of Dinu, as

> an expression of the global society [that] proposes ways of development which consume the inexhaustible resources, above all the resources represented by human intelligence, by knowledge, the propensity to innovate, the entrepreneurial capacity, the creative associationship, etc. […] When society arrives at diligently producing knowledge and preponderantly consuming knowledge, then it really becomes the knowledge society[86].

Conclusion: ITC in its framework

A final remark might be necessary. We mentioned in the Introduction of this section that it would be difficult to understand all the different categories that try to capture the essence of our society. This being the case, we can, however, establish a certain degree of priority and ordering among them. Thus, the core element that drove our society to its current dynamic is political: the search for a community of knowledge able to overcome the

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[85] ANDERSSON, J., p.107
[86] DINU, M., p.46

stagnation of both democracy and capitalism. The implementation of this policy took place in a propitious context of social and cultural change. This change is characterized by a generalized search for revitalized ways of social interaction and by people's appeal for continuous innovation. These social trends, aligned with political and economical interests and materially implemented by the emergence of new technological possibilities, gave rise to a new social mode of organization and interaction around networks. As a result, an increasingly globalized society appeared as based on two pivotal items, information and innovation. It must be noticed that all those new conditions refer especially to western societies. They, however, constitute the background against which development for poor non-western countries is conceived and subsequently planned. This context, therefore, will be our framework for the rest of this thesis.

Economic interests soon exerted hegemony over the new social conditions to the extent of dominating all those processes. By taking advantage of the new opportunities, economic driving forces rapidly took over and, since then, competition reigns over the process of globalization.

To conclude, what is the role attributed to ICT in this environment? We can with confidence assert that ICT has become the indispensable instrument for the socio-economic reconstruction according to the Third Way's policies. Furthermore, ICT has been the indispensable channel to promote knowledge, information, networking, and, ultimately, globalization. In this sense, ICT is considered a crucial element for the new mode of development that characterizes our society. At the same time, all those social categories are the hermeneutic that describe the real meaning of ICT. Outside this context, ICT would be

just a new powerful technology. It is essential to notice that ICT is not exclusively a technological tool. On the contrary, ICT contains and expresses the whole set of meanings and values beneath all those categorizations of the current society. That is why the application of ICT for development cannot be taken aseptically, in the abstract. ICT, as a means for development in poor countries, is the best expression, the best channel, and the best ambassador of the global, informational, networked and knowledge-based western neoliberal and postmodern society. Applying ICT to development means to apply globalization, information, networking, and knowledge, and with them, a whole set of meanings and values.

In addition, besides ICT serving not solely as an instrument, an extraordinarily powerful instrument, ICT is also a pretext to keep the economy machinery working at an accelerated pace that goes beyond the social, cultural, and environmental limits of sustainability.

2. ICT for Development

Introduction

The above section has provided the social framework for development strategies. In accordance with that context, development has to do with participation in the global socio-economic and cultural flows of information, networking and knowledge. In that sense, strategies for development are directly related to the attainment of the conditions to

participate in those currents. The key, it is insistently claimed, is knowledge: development as learning.

As observed above, ICT must be understood as intimately connected – in a reciprocal way - to globalization, informationalism, networking and knowledge, and, therefore, connected to a new social paradigm dependent on innovation. In this context, ICT appears to be essential to development strategies. While this development model is primarily applicable to western socio-economic conditions, as a matter fact, innovation and its best ally – ICT – has become the pattern to be applied to developing countries. Consistent with this stance, development strategies focus in endowing poor populations with these new technologies as well as the capacity to deal with them competently.

Since the goal is to make it possible for those populations to participate in the global socio-economic flows led by advanced western society, development becomes a process of catching-up. Given the extreme differences between those countries already participating and those left behind, it is common to refer to this catching-up process as "leapfrogging". Such perspective on development has led numerous scholars to gain awareness of the manifold obstacles that endanger the possibility of catching up. Abundant literature deals with those "gaps". Among them, we will explicitly refer to the so-called "Digital Gap" or "Digital Divide". The relevance of this digital gap is due to the fact that, to some extent, it concentrates and summarizes all the inequalities that hinder development in its current terms.

2.1. Knowledge for Development: The Capabilities Approach Put in Practice.

In this subsection, we will outline the main aspects related to the most current approach to development. I will support my explanation by citing the Report "Innovation: Applying Knowledge for Development"[87], issued in 2005 by the United Nation Development Program within the context of the Millennium Project, a project that seeks to implement the Millennium Development Goals (MDG).

To start with, it is important to notice that, in spite of the general acknowledgement of the relevance of knowledge, there is no univocal agreement when it comes to the status of knowledge for development in poor countries, either as benign or potentially harmful. In that sense, Evers observes that

> knowledge has been recognized by economists as the most important factor of production in a "new economy". The production and utilization of knowledge is therefore essential for development […] Some commentators have, in contrast, asserted "that it is doubtful that the knowledge revolution will let developing countries leapfrog to higher levels of development" as "the knowledge economy will actually expand the gap between rich and poor."[88]

The theoretical ground that supports this perspective upon knowledge for development is the capabilities approach. Human capacity for learning establishes the connection between the capabilities approach and the knowledge strategy for development. Learning, indeed, is

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[87] JUMA, C. & YEE-CHEONG, L., Task Force on Science, Technology and Innovation, UN Millennium Project,. *Innovation: Applying Knowledge in Development (*Earthscan Publishing, London and Sterling, VA), 01 2005.
[88] EVERS, H-D, p.1

the basis for development; thus the Report qualifies development as learning[89]. Development as learning aims to build a sustainable, indigenous, long-term capacity for self-development. The overall goal is to enable poor population to participate in the global flows of development based on innovation, especially, technological innovation. In that sense, scientific and technological competence is an essential part of the process. As the Report highlights,

> a nation's ability to solve problems and initiate and sustain economic growth depends partly on its capabilities in science, technology, and innovation. […] If long-term goals are to be achieved and growth and problem-solving are to become indigenous and sustainable, developing countries need to develop their own capabilities for science, technology, and innovation. [90] In themselves, however, these scientific and technological measures do not solve the challenges of poverty and hunger; they need to be part of an integrated strategy aimed at improving overall human welfare.[91]

Certainly, the Report, as does the capabilities approach, focuses on integral human development. However, for the Report, within this overall focus, economic growth is the primary and indispensable condition for development. It acknowledges that without a long-term sustainable capacity for economic growth, there are no possibilities of maintaining the participation in the global economic flows. Failure to participate in the global knowledge economy would have severe consequences for a poor country. It would imply not only remaining poor and dependent, but also facing the growing pressure of a continuously spreading gap. This spreading gap is explained by the fact that the global economy

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[89] Cf. JUMA, C. p.18
[90] JUMA, C., pp.20-21
[91] Id., p. 22

continuously speeds up as it is pushed by an incessant flow of knowledge and innovation. Therefore, since poor countries start up from a marginal position, "leapfrogging" is the only option for poor countries when trying to bridge the knowledge gap. While the explosion of knowledge is the result of strategies for overcoming the stagnation of western society, when it comes to poor countries, such explosion of knowledge is a two-edged sword. On one hand, it is an opportunity to take off, and, on the other hand, it is a source of increasing pressure. Anyway, whether an opportunity or a burden, this Report stresses the necessity for poor countries for "developing strategies to harness the explosion of development".[92]

Given such background, the development as learning approach wisely recognizes that only by building or reinforcing the human capacities related to the acquisition and generation of innovation would participation be possible. To a great extent, this means that poor countries must be willing to join the knowledge economy. The great argument for this approach comes from the so-called Emerging Economies. All those economies appear to set an example for overcoming of the underdevelopment and poverty. By investing either in basic scientific capabilities or in new technology generation, or in both, the Emerging Economies have been able to leapfrog to high levels of productivity and competition, raising, as a result, the standard of living of their citizens with higher wages and modern infrastructures and services. At the same time, individuals have been enhanced with better education and other capabilities that enable them for higher levels of socio-political participation, within and outside the national boundaries. Put in those terms, the argument is strong enough to encourage poor countries to undertake necessary efforts to follow that path. However, as we will see later, on the one hand, the Emerging Economies have indeed

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[92] JUMA, C., Executive Summary, p.1

raised certain economic indicators, but also the indicators of internal inequality. On the other hand, we must analyze the actual possibilities of investing in knowledge and innovation that each country possesses.

As said above, the challenge for poor countries consists in harnessing the explosion of knowledge so that they can benefit from them and, at the same time, avoid the risk of increasing marginalization. This goal requires the building-up of an indigenous system of knowledge and innovation. As the Reports asserts, "the first priority for developing countries is to build indigenous scientific and technological capacity, including research infrastructure, as part of the national planning strategies."[93] Aware of the difficulties that any single poor country undergoes to follow the path marked by the knowledge economy, this approach conceives development as learning, as an integral effort involving all levels of social, political and economic institutions. On one hand, this approach supports a mixed strategy involving both public and private sectors which, colligated in joint ventures by different structures of partnership, collaborate in common efforts for development. Thus, government, universities and other research institutions, and private enterprises could benefit reciprocally from partnership agreements of shared investing power and competence for the generation of knowledge and innovation. On the other hand, this approach implicates international, national, and regional levels in the task of creating an indigenous knowledge structure.

This last aspect implies a different perspective with respect to previous developmental strategies. Even if the goal is the creation of a national structure of

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[93] JUMA, C., p.26

knowledge and innovation, external contribution are necessary to take off. Typically, this external support has consisted in International Aid, Technology Transfers (TT), Foreign Direct Investments (FDI), complemented by acquisitions in the context of international trade. The most important ones, namely, TT and FDI, are nowadays strongly dependent on the capacity of the country to absorb innovations. Concerning TT, this dependence refers to the fact that TT only benefits the country as long as they can effectively be adopted and used. In early stages of international development collaboration, the transfers of technology typically consisted in transfers of mature technology. A mature technology is defined as that sort of technology that has been operative for a long period and whose use is widely diffused and familiar. This variety of transfers is less and less relevant since the short lifecycle that characterizes innovation production prevents technology from maturing. This situation implies a great disadvantage for poor countries unless they have a sector of population adequately educated and constantly updated to deal with a continuous flow of innovation. Ultimately, TT is no longer the main source of innovation for poor countries, since FDI has replaced it.

FDI is the realm of MNEs, which, at the same time, control a great part of the generation of technology, science, and innovation, as well as its application and diffusion. As James observes, "it is no coincidence that many of the MNEs engaged in the growing dispersion of R&D investment to developing countries are themselves producers of new technologies in general and information technologies in particular".[94] Consequently, it is in the utmost interest for poor countries to attract FDI, because FDI is the main supply of

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[94] JAMES, J., *Globalization, Information Technology and Development*, (MacMillian Press, London/ St. Martin's Press, New York, 1999), p.69

access (direct or indirect) to updated sources of knowledge. In fact, we can affirm that, in recent decades, development has relied mainly on FDI. Since MNE only invest where adequate conditions are assured, poor countries, again, are impelled to provide adequate infrastructures and, especially, a well trained population able to offer a competitive workforce. Achieving a competitive workforce in the knowledge economy means developing labor endowed with scientific and technological training and with flexibility.

To bring this subsection to a conclusion, we can sum up by emphasizing that the overall goal behind the development as learning approach is to increase the indigenous level of knowledge competence. To a great extent, competence, according to the Report, is related more or less directly to competitiveness, since the Report relies strongly on the developmental possibilities derived from participation in the new socio-economical paradigm, that is, the knowledge Society/Economy. Consistent with this paradigm, for this approach, it is the process of technological learning associated with technological competence building that forms the basis of development.[95] Development, in that sense, is dependent on technology and the capacity to deal with it. As the Report argues, "It is through the existence of such capacity that developing countries will be able to manage technology acquisition, absorption, and diffusion activities relevant to development."[96]

To conclude, investing in social capital is the best option for poor countries to lead a population out of poverty. Our next task is to make explicit the specific contribution to development brought about by the technological innovation on which this approach relies.

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[95] Cf. JUMA, C., p.17
[96] Id., p.26

2.2. ICT For Development In The Knowledge Society/Economy

Item number 18 of the Millennium Development Goals (MNG) states: "In cooperation with the private sector, make available the benefits of new technologies, especially information and communications"

While this approach argues that technological diversity[97] is required for adequate development, there are two reasons explaining the focus of development on ICT. The first reason is that we do not speak of development in an abstract context, but in a very specific historic framework: the socio-economic paradigm explained in the previous section, which, as observed in the previous section, identifies with the ICT's hermeneutics. The implications of this new paradigm for development are expressed in the "development as learning" approach explored in the above subsection. The second reason has to do with the instrumental dimension of ICT. ICT has acquired a predominant and pervasive role within all the scientific, technological, and innovative realms. ICT is both factor and commodity. As a factor, ICT acts as primary resource for production and management as well as for other factors. As a commodity, ICT dominates consumption trends in the market. This subsection has to do precisely with this instrumental dimension of ICT.

To start with, we must take into account a basic distinction regarding the role of technology in general for development: there is a direct and an indirect role. According to the Report,

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[97] JUMA, C., Executive Summary, p.12

technology affects human development along two major paths. First, innovation can directly increase the ability of existing science, technology, and innovation programs to reduce poverty and expand human capabilities. This is most evident through technological innovations in public health, agriculture, energy use, and ICT. Second, technology can indirectly affect human well-being by enhancing productivity and increasing economic growth and incomes.[98]

Reflecting the salience of this distinction, the following two subsections will present a succinct overview of the direct and indirect role of ICT for development.

2.2.1. ICT Strategies for Economic Growth: The Quest for Innovation

Analysts identify two major fields where ICT plays an essential role in the pursuit of economic growth within the context of current global economic flows. The first one has to do with participation in the international trade and global markets. ICT, it is argued, fosters the comparative advantage required to participate. The second way ICT promotes economic growth is by encouraging FDI. In the end, both participation in international trade and attraction of FDI tend to converge, since for a developing country (especially in the early stages of economic development), the capacity to access the international trade flows strongly depends on the operations undertaken by foreign firms established within the boundaries. International trade and FDI are believed to initiate and to foster the development of the productive sector and the domestic market that will boost the overall economy activity of the country. A key role in this sort of virtuous circle is played by

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[98] JUMA, C., p.31

domestic small and medium-size firms which operate as suppliers for western firms established in the country.

Concerning participation in international economic flows, achieving high level of competitiveness is the access requirement. In today's economy, competition is based on innovation. In attaining competitiveness, this quest for innovation concern both public and private sectors. In the above section, we have already explained that the public policy must focus on the learning process of the population. For its part, the productive sector faces, in this context of the so-called "financialization" of the economy, the necessity of remaining constantly innovative. Maintaining a continuous stream of innovation is the mechanism that capacitates a firm, an industrial sector, a market, or any investor of any sort, to remain competitive in the current conditions of markets. Such a requirement derives from the mechanism of market valuation of any firm, based on the financial markets. To put it most simply, a firm's value is given by the expectation that the financial operator adopts about its possibilities of rendering not simply a high benefit, but a continuous flow of super benefits. Such capacity secures that the firm's stock rating is overvalued and, therefore, that the market operations regarding that stock is highly profitable. This is the case, by way of example, of the huge overvaluation attributed by the financial markets to the new class of network communication companies. In order to maintain over time the capacity to generate superior profits, the firm needs to accomplish two conditions, according to classic economic theory. On one hand, it requires increasing levels of productivity and, on the other hand, it needs to expand its share of the market. This is attainable by focusing in innovation, on the supply-side as well as on the demand-side. This focus on innovation, as is easy to understand, absorbs huge financial resources, what, in turn, makes the firm highly

dependent on the financial markets and its valuation mechanism. Consequently, failing in this high level competition could result in the financial collapse of the firm.

This focus on innovation in the productive sector has exacerbated a new tendency in the patterns of consumption derived from the new social paradigm. This tendency is the growing demand for innovation, especially technological. Innovation has, indeed, become a major criterion for consumption in western countries. The most striking consequence is that technology, (even more, technological innovation) is not as much a productive factor as a consumption commodity. The western public consumes and demands technological innovation, very especially that kind of technological innovation (in the form of goods and services) directly related to ICT, consistent with the dominant socio-cultural paradigm based on information and networking. This pattern of consumption exacerbates the need that the firms have for shorter productive cycles and higher product rotation.

Let us examine how this logic affects the supply and demand sides for the productive sector in relation to developing countries. In past years, supply-side advantages in terms of labor and raw materials were the best argument for western companies to locate in poor countries. Both international trade and FDI were based on those basic conditions. While those conditions are still relevant, the need for innovation implies a significant shift concerning firms' strategies. The new strategy is based on the generalized and massive adoption (and, therefore, diffusion) of information technologies, which is explained, according to James, in the following terms: "the primary objective for firms to adopt [of industrial information technologies] is not so much to reduce costs as it is to improve product quality and reduce the time needed to develop new products and bring them to the

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global marketplace."[99] This is the so-called "New Competition", competition based on product differentiation, higher rotation of new products and design changes[100]. This position leads us to conclude that the demand-side conditions are now the dominant criterion to explain the location of western firms in developing countries. Therefore, what firms are after in developing countries are conditions related to a higher and regular quality of work, flexibility of production, and speed of production. These conditions imply two elements simultaneously: investment in technology, on the part of the firm and, on the part of the country, especially a labor force which is both cheap and well-trained to work in circumstances of flexible and technology-intense production. Consequently, "development as learning" is, again, the basic policy for allowing poor countries to participate in global economic flows.

With a secondary degree of relevance, there is another reason to explain the shift in the criteria for location in certain developing countries. It is expected that some highly populated developing countries, once having reached a certain minimum level of economic prosperity and technological competence, become potential large markets.

Furthermore, there is a fundamental factor that allows this mechanism to work. The new production system, one that requires a high level of efficiency and flexibility, is based on new ways of industrial organization and management based on decentralization and specialization within the same firm. This organizational mechanism relies essentially on the ICT. In that sense, ICT has given rise to a revolution in the managerial systems. On one

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[99] JAMES, J., 34
[100] Cf. Id., p.36

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hand, ICT provides instantaneous communication between different branches scattered over the world, making possible a perfect coordination. On the other hand, ICT has optimized the production accomplished by perfectly coordinating suppliers, chains of production and sales networks, thus reducing notably the costs associated with storage and intermediation. This revolution in the management has been crucial in facilitating decentralized location in developing countries.

Besides this direct role that ICT plays in production, ICT is a technological factor for other technologies, especially, for the so-called "New Technologies". "New technologies" are not limited to ICT, but their scope comprises several different fields. We can highlight the following, according to their relevance: biotechnology, nanotechnology and new materials. All these new technologies, along with ICT, are the technologies that nourish and support the Knowledge Society/Economy, and therefore, are the technological base of the new socio-cultural paradigm. According to the Report[101], all those new technologies are highly dependent on the ICT.

It is important to bring this set of new technologies into this section, because they constitute the grounds for the economic development experienced by the Emerging Economies (EE) and, in an early stage, by the New Industrialized Countries (NICs). Those countries, as mentioned above, are considered the model for the current poor countries within the context of the Knowledge Economy. By investing in social capital (either in basic science or technological competence), and by focusing on innovation, these countries have become highly competitive and highly attractive for FDI, thus launching their

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[101] JUMA, C., p.47ff

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economies on the path to prosperity. Today, those countries not only participate in the global economy and the global knowledge, but dominate in both. The key to their prosperity has been their investing in knowledge while generalized development and adoption of ICT by domestic firms has been a main factor within this policy. Following the example set by the NICs and the EEs, policies in poor countries should not be limited to strategies intended at attracting foreign investment as the primary source of financial, technological and knowledge resources. While these resources are basic to the process of taking off, our objective is to create an indigenous economic structure. Thus, besides of investing in a well trained and competent labor force to deal with the new conditions, national policies should focus in promoting and supporting a domestic network of small and medium-size businesses based on the principle of innovation. Summarizing the conditions for benefitting from innovation, J. James divides developing economies into two groups, gainers and losers, where "gainers tend to be countries whose comparative advantage turns on skilled rather than unskilled labor, which are close to developed country markets, or which have large domestic markets on their own".[102]

According to all the arguments so far exposed, acquiring ICT infrastructure and inducing ICT use has become the most basic strategy for a developing country to participate in the global economy, and therefore, to overcome underdevelopment and poverty.

Anyway, as seems obvious, economic prosperity is not the exclusive factor for development, particularly when considered from the perspective of human development.

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[102] JAMES, J., p.76

Let us, therefore, examine the possibilities of ICT for direct expressions of human development.

2.2.2. ICT's Contribution to Direct Human Development

Within the scope of the MGD, the Report highlights a few contributions of technology in general to overall human development beyond its role in economic welfare. Thus, technology improves and facilitates education, provides new sources of energy, improves access to water and improves sanitation, fosters advances in agriculture, expands the access to health care and treatments, facilitates the monitoring of ecosystems, contributes to the emergence of new ways of socio-political participation, etc. In other words, science, technology and innovation (knowledge, in general) are the basic conditions to enable deprived populations to participate in the benefits obtained long ago by western societies.

All those contributions to development share a characteristic that is missing in the previous analyses on economic development: they focus on people rather than on systems. In this sense, they tend to be more specific in their scope of action and they usually focus on concrete situations. Those strategies of development consist basically of specific projects of development. Those projects, like the strategies of economic development, involve private and public sectors and induce diverse forms of partnership among international and domestic institutions, engage local and national levels of government. However, what characterizes nowadays these projects is the rising implication of institutions and organizations of the civil society in all the stages of the project, from the evaluation of needs to the decision-making process, from the implementation of actions to

the final assessment and control of them. Because of their focus on people rather than systems and because of the increasing involvement of the civil society in them, non-economic strategies of development tend to be far more participative than the strategies focused in economic growth.

We might wonder if there is any sort of relationship between non-economic and economic strategies for development. A brief analysis of the question leads us to a positive answer: non-economic and economic strategies necessarily implicate one another if true development is to be attained. Since this question is of particular ethical interest, it will be an object of further consideration in the next chapter. For now, I will limit my treatment to noticing the excessive dependence of non-economic strategies with respect to economic conditions.

It is time to narrow our scope to the ICT's particular contributions. I would summarize this matter by focusing on two aspects that most of the relevant authors underline. On one hand, ICT, as stated above, is a crucial factor for the development of most technologies. On the other hand, ICT's contribution is determinant when it comes to enabling or enhancing processes of participation in terms of society, politics and culture within the new socio-cultural informational paradigm.

Concerning the first aspect, we have already noticed that, for most technologies, their advancement is conditioned by the development of information technology innovations. By way of example, technologies that are implicated in medical and pharmaceutical advancement progress at the pace of information technologies innovation.

Additionally, networking is indispensable for a quick and efficient diffusion of the knowledge linked to projects of development based on technological innovation. At the same time, ICT allows the optimization of a developmental project in terms of evaluation of needs, in terms of the resources to be applied, and in terms of assessment of results. It also contributes to how one might personalize projects according to situations.

In that sense, ICT acts as a basic tool of networked information that connects needs and resources, or better phrased, ICT is the tool that interconnects people by interchanging information about needs and about available resources. The problematic issue at stake at this point is double. First, there is the question about access, about the real possibilities of interconnection. Second, there is the question about who should connect with whom: what level is more adequate to implement strategies of development from both sides, from the side of needs and from the side of resources? According to some authors, the response to this question is not immediate. In general, we can argue that it is necessary to foster the interconnection at all levels, ranging from international institutions to the individual. However, again, the response to this matter has to do with knowledge: it depends on who has the relevant knowledge on each side for a particular case. We must refine this answer, but that pertains to the task of the next chapter, since, in the end, the response to these questions has an ethical implication.

This first aspect leads us to the second one. Beyond intended strategies of development powered by ICT, there a non-evident and non-intended contribution of ICT to human development. ICT open new modes and possibilities of social, political and cultural participation within the context of the global informationalism paradigm. Through a

continuous flow of networked information, people in underdeveloped countries have direct access to a multitude of forums of many sorts. By taking part in those forums, people in poor countries overcome somehow the social, political and cultural limitations to real participation by superseding the institutional and structural barriers imposed by all sort of deprivations. This is the case, for instance, for the current events taking place (i.e., in 2011) in various countries in North Africa and Middle East, where popular uprisings are mainly attributed to the participation of the populace in Internet forums. These new modes of informal but effective participation through networking are applicable to all levels of society. Individuals, groups, institutions, communities, etc., all of them are welcomed to take part in and to contribute to the global network of information. This is, in fact, the realm of the emergent civil society.

Conclusion

We can attempt to summarize mainstream position on the role of ICT is today's social life by quoting M. Warschauer, who argues that:

> Being part of this network is critical not only for economic inclusion, but for almost all other aspects of life today, including education, political participation, community affairs, cultural production, entertaining, and personal interaction. ICT is making possible new organizational structures for social participation, from teen chat rooms, to online dating services, to political action Web sites, to Internet-based learning.[103]

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[103] WARSCHAUER, M., *Technology and Social Inclusion. Rethinking the Digital Divide* (The MIT Press, Cambridge, MA and London, 2004), p.28

What is stressed in this argument is the very great relevance of ICT to promote participation in all dimensions of social life. This focus on social participation coincides with the emergence of the phenomenon of a civil society as social mode and structure of organization and governance based in direct social engagement.

Following this logic of civil engagement through the Net, scholars such as P. Norris and Warschauer emphasize a further role of ICT for participation: *democracy online*, also known as e-governance. Theories of Digital Democracy, diverse experience of online Parliaments, virtual parties, etc., are some of the new possibilities to explore in encouraging enhanced participation at the grassroots.

The political dimension of global social processes is particularly weak and in some cases ruled out from the global dynamics, even when political decisions determinately influenced the emergence of the new order. In the field of development, policies and governance are of the utmost importance, even when governments' decision-making power is curtailed by the imposing influence of large economic operators. However it is at the level of politics that harnessing the powerful new forces of the new global paradigm witnesses its best possibility, since it is at the level of politics where participation finds its best expression.

Whether ICT will provide new channels for better participation - real democracy – is still unknown. For now, ICT inspires a great hope for helping the world to transform by enabling a generalized participation. The great concern regarding this matter is the question

of wider access to ICT, or what is often termed the "Digital Divide". This particular matter

will open up our ethical evaluation of the possibilities for development in the ICT age.

C HAPTER 4 - TOWARD AN ETHICS FOR THE ICT AND DEVELOPMENT

Introduction
1. **ICT and Genuine Participation**
   1.1. ICT and Economic Participation
   1.2. ICT's Direct Contribution to Development
      1.2.1. The Question of the "Digital Divide"
2. **ICT and the Building –Up of the Community**
3. **Human Development as Mediation for Human Ascent**

Introduction

Human development is mediation for the ultimate progress of humanity, namely, the universal movement of the human community toward its Creator. This truth is the definitive normative referent to appraise developmental actions. With respect to this ultimate end, everything is instrumental or constitutes a means for it. Such is the teaching contained in the biblical passage of the multiplication of bread related in Mark 6.

In accordance with that message, the definitive good that such ultimate human progress contains is the most excellent form of participation: participation in God's life. Participation in social life is the earthy mediation that reflects in a veiled way that supreme participation. Economic participation, participation in the material goods of the earth pertains, as a means, to the realm of social life. In that sense, as also drawn out from the biblical passage, community becomes the core mediation for attaining the supreme human

fulfillment in God's life by participating in social life, for, "orchestrated by the Spirit, the ascent of humanity offers us a score of imposing unity".[104]

As in human development strategies, such a movement implies a certain knowledge that is crucial for the attainment of that end, in this case, the knowledge of God.

On account of those supreme references, I find that Goulet's development ethics, based as it is on values and transcendental meaning, offers a suitable and elevated conception of development as the "Human Ascent" which is coherent with our theological view:

> Authentic development aims at the full realization of human capabilities: men and women become makers of their own histories, personal and societal. They free themselves from every servitude imposed by nature or by oppressive systems, they achieve wisdom in their mastery over nature and over their own wants, they create new webs of solidarity based not on domination but on reciprocity among themselves, they achieve a rich symbiosis between contemplation and transforming action, between efficiency and free expression. This total concept of development can perhaps best be expressed as the "*human ascent*" – the ascent of all men in their integral humanity, including the economic, biological, psychological, social, cultural, ideological, spiritual, mystical and *transcendental* dimensions.[105]

Armed with this normative baggage, in this chapter, I proceed to analyze ethically the role of ICT for development. The first two sections will consider ICT in its instrumental dimensions, concerning information in the first section, and communication in the second

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[104] LEBRET, L.J., *Human* Ascent (Fides Publishers Association, Chicago, 1955), p.120
[105] GOULET, D., "Can Values Shape Third World Technology Policy?" in *Journal of International Affairs*, 33(1), (1979), 89-109, p. 91

section. The third and final section will be devoted to the hermeneutical content of ICT, that is, to ICT as channel of a new global, informational, networked and knowledge-based socio-economic system and culture.

1. ICT and Genuine Participation

Most perspectives on development emphasize the role that participation plays in bringing prosperity at the level of grassroots levels. However, that real participation is sought and attained needs to be established. Our criterion to determine if authentic participation exists was described in the theological grounds displayed in the first chapter in the following terms:

- Authentic participation should be realized in terms of *empowerment* in the process of *decision-making*

- Authentic participation should reflect the *different social levels* that constitute the society

- Authentic participation is intrinsically interrelated with the *action of sharing*

- Authentic participation should be accompanied by *solidarity*

In this subsection, we proceed to examine to what extent such conditions are effectively taken into account. Since our focus is ICT, such examination involves the two development contexts in which ICT plays a role, that is to say, indirect development through economic growth driven by ICT, and direct development actions based on information and communication strategies. We must, therefore, consider participation in both realms.

1.1. ICT and Economic Participation

In dealing with indirect development through economic expansion, our examination on participation turns, in first place, to the phenomenon of *concentration*. Certainly, what characterizes economic growth based on innovation is a process of progressive concentration of economic activity. Such concentration affects different levels:

1. Concentration on some rather than on other developing countries

2. Concentration on some regions or areas within one country

3. Concentration on some groups of population

All these levels of concentration have to do with the patterns of economic expansion derived from innovation strategies, as explained above. The core of this tendency to concentration is FDI strategies driven by MNE. Developing countries strongly depend on them in order to participate in the New Economy as long as they need to acquire some competence in the contexts of technological innovation and "New competition". In general terms, concentration is a universal economic law, since as Jeffrey James asserts, "the tendency of capital on a global scale is to gravitate toward those locations that already have concentration of capital in its money, technological and human forms."[106] However, in the context of the new innovation-based production arenas, the phenomenon of concentration has become exacerbated. The reason is connected to the current patterns of FDI which, induced by the effects of massive adoption of ICT at all levels of production and, especially, in consumption patterns, privilege some rather other locations on the base of skilled labor, proximity to developed country markets, and the possession of large domestic

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[106] JAMES, J., p.62

markets[107]. In particular, James highlights[108] the impact of western demand for innovation on the generation of geographical concentration. In a word, maximum profitability from investment is the driving force for such concentration. As explained above, financial factors put strong pressure on markets and firms to focus all strategies on high profitability rather than other criteria, such as those derived from Corporate Social Responsibility.

As a result, those countries eventually endowed with skilled labor and focused on innovative production, especially information and communication production and services, benefit from this tendency of FDI to concentrate to the detriment of those countries less well positioned in terms of real opportunities for attaining a skilled labor force or an innovation-driven economy. It is not a coincidence that those less well positioned to participate in this new economy tend to be the poorer sub-Saharian African nations. Given the cumulative nature of these processes, the gap between winners and losers continuously expands. Moreover, those countries closer – not only geographically, but socio-economically – to western markets also benefit from concentration, as well as those countries that more likely might become substitutive or additional markets to western economies because of their size or because of their particular affinity to western influence. Summing up, the possibilities that any country can count on to participate in the new global economy are particularly dependent on western consumption patterns. Although this situation is not new but reproduces historical tendencies, the generalized introduction of ICT in the economy has determinately exacerbated that constant tendency toward conditioning the logic of the international economy to western interests.

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[107] Cf. JAMES, J., p.76
[108] Id., p.73

The above analysis regarding concentration points to some countries as winners, in particular, to large economies such as China, India, or certain other Southeast Asian countries, Brazil and a number of South-American economies, and some exceptions in Africa, such as Nigeria. Even if those countries, to a larger or smaller extent, are able to participate in the new economy, however, it does not mean that they have attained an adequate status of authentic participation. On the contrary, most of those "flourishing" economies display a high level of domestic inequalities on two levels, regional and among social groups. This is the case for India – one of the main ICT producers – with a high disparity in income between both regions and social groups. This is also the case for China – the most powerful emerging economy. In general, the effect of adopting the innovation economy has left rural areas and traditional communities, and small collectives – those more frequently affected by chronic underdevelopment – behind the process of economic expansion. At the same time, a new elite – highly educated people, in possession of privileged knowledge and information, with access to the communication channels and technology, and with a strong affinity for western modes and standards of living and consumption - emerges in those countries, thus reinforcing the domestic inequalities.

This second manifestation of economic concentration – within one country - is even more painful than the first one regarding international disparities. If in the first manifestation of concentration, *solidarity* is severely conditioned to the fulfillment of international markets imposing demands, in this second case, the new economy has introduced competition among regions and collectives within a nation as the general rule of social cohesion. If situations of lack of solidarity have always existed within societies and collectives based on various causes of inequity, the new economy has introduced new and

deeper sources of social rupture. Such division consists in distinguishing between those who participate in the "westernalized" global socio-economy and global culture, and those who do not. As a result, expanding social fractures within the countries deteriorates into social fragmentation.

Is there any hope to bring an end to this tendency toward increasing economic concentration and subsequent social fragmentation in the context of the innovation-based economy? The response to this question, being crucial as it is, is complex. The application of the principle of authentic participation as expressed above according to CST, draws out several observations which show two different – and somehow opposed - conceptions of economic participation. On one hand, when it comes to our conditions of *solidarity* and *sharing*, we observe that, in the current economic reality, participation is conditioned to profitability and mediated by competition. In fact, instead of participation being the mediation for economic development, participation is mediated by competition as the ultimate means for economic development. Consequently, *sharing* and *solidarity* at any rate inspire economic participation as the key mean for development.

If these two basic conditions for genuine development are excluded in the conception of participation fostered by economic strategies for development, what can be said about the other two conditions, those related to the *empowerment of all levels of society*? As seen above, empowerment, as a matter of principle, constitutes a crucial economic strategy for inducing economic participation. At this point it is important to clarify what is understood as *empowerment*. If by empowerment we understand training in useful skills to participate competitively in the market conditions, empowerment turns out

to be a manipulation of the capabilities ethical approach. In fact, this is the case. *Empowerment*, in our terms, must be understood insofar as mediation to *Human Ascent*. We must clarify this comprehension.

In practical terms, we genuinely empower people by "engaging them at the early moment in the overall decisional sequence."[109] This decisional engagement, I argue, is not based solely on an endowment of certain capabilities (practical or cognitive), but also on a *political* power at the grassroots level. By "political", I do not mean a narrow sense as in the western democratic political system, in which, ultimately, the decision-making power possessed by one person is reduced to the right to one vote in the context of a system where most decisions affecting the commonwealth are already made at non-political levels and institutions. In the end, this vote does not reflect at all the overall life experience of the citizen, nor of a certain collective, but expresses a tacit conformity with the status that overrides any real possibility of participation. In these arenas, empowerment through capabilities is susceptible to becoming instrumental to some interests alien to the person, since, ultimately, each one counts according to his contribution to sustain and to keep the system going on. Human capabilities, consequently, are improved as a function of the necessities of the system rather than orientated to enhance one's full human being. In contrast to this reductionist but existent conception, I propose a political sense based on the Christian citizenship, in which the "system" does not override the individual. In the Kingdom, each one's vital experience taken as a whole is a normative path for his human fulfillment and also for the building of the Christian community. There is a perfect balance between individual and community, for, ultimately, they converge in the attainment of

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[109] GOULET, *Can values*, p.92

human ascent. The whole vital experience that one human being embodies is what actually

constitute the political essence of the individual, since it is what he brings forth to the social

life, it is what he contributes to social construction, and this is not reducible to a vote at the

polls. What is missing in the conception of participation I oppose is a notion of human

being beyond an ambiguous definition of a human individual as a free being endowed with

certain capacities. A transcendental notion of human being is required to fully understand

what constitutes participating, since a human being, deprived of its transcendental being

and experience, cannot truly be a part of the society. Rather, he or she is partially and,

likely, submitted to coercion or manipulation. In such a context, participation in society is

susceptible to limiting rather than enhancing the human being and the path of human

ascent. Concerning our quest for development, Goulet's scheme, by proposing a model

based in a notion of human being that incorporates his transcendental dimension[110],

integrates an adequate conception of participation for development. In a nutshell,

development without such requirement leads to an instrumental understanding of people's

participation, which seems to be the understanding of participation held by indirect

(economic) strategies of development.

In light of the above, and with explicit reference to ICT, can we say that ICT is

facilitating or enhancing true economic participation? Again, the response is not easy, as

Chaves denotes in his questioning:

> A technology […] so far linked to a process of global economic transformation with highly
>
> unequal results across the world, can be dreamt of as susceptible to playing a role in driving
>
> a development at the same time integral, sustainable and solidarity-based? [...] Is it possible

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[110] See Chapter Two about this point.

to expect from a technology whose property is linked to firms without public service attitude, a contribution to a democratic and sustainable development? What is the probability for a true democratic access to the benefits of the communication revolution, when its orientation is bound to ways of property insufficiently democratic? […] A technology exclusively governed by the market, could it become a driving force for a socially sustainable development?[111]

I do not pretend to offer a definitive response. However, on account of the preceding argumentation, we well might conclude that, as a matter of principle, we should distrust in the possibilities of ICT as mean for development through economic growth. The reason alleged is that the actual economic model based on innovation and massive adoption of ICT seems to be founded upon a fraudulent and manipulated sense of participation conditioned by profitability and mediated by competition. Projecting Goulet's thought toward our current contexts, we might well agree that, "modern technology was never invented to achieve development, but rather to confer advantages to certain categories of producers or warriors over others. If technology is to become an instrument of human development, it must be re-invented under the aegis of values opposed to those which presided at its first incarnation".[112] Certainly, we may appreciate that the current system, instead of fomenting genuine participation which generates social cohesion and bonds of solidarity, appears to exacerbate inequity and is giving rise to worrying social fragmentation. This *provisional* conclusion should lead us to discard the role of ICT in indirect development to focus on other possibilities in the realm of direct development, though, as we will see, it is not possible to completely segregate both approaches.

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[111] CHAVES, J.A., pp.118-119. The translation is mine
[112] GOULET, *Can Value*, pp.99-100

1.2. ICT's Direct Contribution to Development

Having provisionally suspended a definitive conclusion on the adequacy of indirect development in the context of the innovation-based economy, this subsection is devoted to assess ethically ICT's contribution to development through direct developmental actions.

At this point, we should recall that, according to the analysis undertaken in the previous chapter, this aspect seemed particularly promising in terms of grassroots participation. The explanation for this stance lies in the focus on people rather than on systems that those strategies for development appear to exhibit. In this sense, the target of the projects of direct development is mostly individuals and basic collectives, since their objective is the generation of opportunities for an effective social inclusion. By social inclusion, we understand "the extent to which individuals, families, and communities are able to fully participate in society and control their own destinies, taking into account a variety of factors related to economic resources, employment, health, education, housing, recreation culture and civic engagement".[113] Social inclusion is, therefore, the key developmental goal to be attained through effective participation. The point here is that effective social inclusion becomes dependent on an effective integration of ICT into these basic social levels, and, ultimately, into institutions and societies. The negative side of this integration is the question of the "Digital Divide". Before going ahead, we need to introduce this key element in our analysis of participation.

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[113] WARSCHUER, M, p.8

1.2.1. The Question of the "Digital Divide"

At the end of the previous chapter, we introduced the question of the "Digital Gap" or "Digital Divide". Abundant literature nowadays treats this problematic issue, thus denoting that, among scholars, the digital gap is a major ethical question in the field of development. Given the emphasis given to the role of ICT for development, to some extent, the notion of the digital divide captures most of the ethical concerns regarding development.

The ethical approach of the digital divide focuses on inequity. The digital divide represents the current version of most of the contemporary inequities affecting development and society in general. Digital divide, according to a broad definition, refers to those inequities concerning the differential between countries, between regions, and between collectives, in the ability to access ICT, particularly to Internet. Pippa Norris understands digital divide as a multidimensional phenomenon encompassing different aspects[114]. She identifies three aspects, *global divide*, *social divide*, and *democratic divide*, which she defines in the following terms:

> The global divide refers to the divergence of Internet access between industrialized countries and developing societies. The social divide concerns the gap between information rich and poor countries. And finally, within the online community, the democratic divide signifies the difference between those who do, and do not, use the panoply of digital resources to engage, mobilize, and participate in public life.[115]

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[114] Cf. NORRIS, P., *Digital Divide. Civil Engagement, Information Poverty, and the Internet* Worldwide (Cambridge University Press, Cambridge and New York, 2001), p.4
[115] NORRIS, P., p.4

What factors explain such differences in access? Following Warschauer[116], we can summarize this matter by referring to four large groups of barriers to access, namely those concerning (1) physical resources, (2) digital resources, (3) human resources, and (4) social resources. All those elements count in the matter of fostering inclusion or exclusion in terms of access to ICT, since what makes the difference is not, by way of example, having a computer connected to the Net, but *being able to use ICT for personally or socially meaningful ends*"[117]. It is worthwhile to spend some time considering succinctly those elements.

"Physical resources" refers to devices and connectivity, including infrastructures. Access at this level comprises diverse factors of differential. We can highlight a few of these that are especially relevant for development. First, the question of rural communities, since ICT infrastructure's easily gets concentrated in highly populated areas. Some solutions, such as *telecenters*, *computer kiosks,* and other public centers, try to deal with this difficulty, but not satisfactorily[118]. Second, the affordability of electronic devices. This affordability is related to its simplification and adaptation to real necessities. The so-called "Dilemma of the Innovator" excludes the private sector from accomplishing the conditions of an adapted, simplified and inexpensive production of devices (mainly computers) for poor regions. Only a few large economies such as Brazil or India can afford public

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[116] Cf. WARSCHAUER, M., Chapters 3-6
[117] Id., p.32 The emphasis is mine
[118] For further reference on these strategies, see JAMES, J., *Information Technology and Development* (London – New York, 2004)

programs leading to this kind of production, which basically leave out most of the developing countries.

When it comes to "digital resources", two aspects enter into consideration, namely, content and language, both of critical importance when we undertake the task of examining ICT's direct contributions to development. We will examine these later.

Concerning "human resources", access to ICT depends on two variables: literacy and education. Very summarily, literacy, in terms of ICT, involves several skills related to the informational age. Those basic skills are: computer literacy, information literacy, multimedia literacy, and computer-mediated communication literacy. Such skills, argues Warschauer, are valuable in the context of the broad information society, but he also acknowledges their value as learning depends on meaningful content and goals[119]. In that sense, Warschauer stresses the crucial importance of social environment in the process of learning.

In connection with this last point, the fourth factor that determines an effective access to ICT benefits refers to "social resources", that is, communities and institutions.

The above four groups of factors and conditions determine to what extent a country, a region, or a collective are able to benefit from ICT for their own development, and, therefore, to what extent they are able to fully participate in the current society, that we have previously qualified as informational, networked and knowledge-based. In Warschauer's perspective (which is perfectly consistent with the current knowledge-based socio-economic model), the digital divide identifies a sort of social exclusion drawn out from the inability to gain *access to knowledge*. However, for him, access to knowledge in

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[119] WARSCHAUER, M., p.112

the informational age is particularly related to the ability to adapt and to create knowledge within the new channels[120]. This ability to adapt and to create determines the difference between being *producers* and being *passive recipients*.[121] This point is the key to the digital gap.

We can conclude this succinct overview regarding the digital divide by providing an inclusive definition of digital gap. Thus, for Baranov[122], "digital inequality is a thoroughgoing inequality in access to social, economic, educational, cultural, and other opportunities owing to unequal access to information and communication technologies."

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Among the catalogue of barriers that Warschauer displays, those related to digital resources – in particular the question of "content" - play a particularly relevant role in our reflection on genuine participation. In relation to that point, Warschauer highlights that "the internet content is overwhelmingly concentrated in the major cities of the United States and Europe" and that "there is also a great disparity in regard to the representation of languages online."[123] As Warschauer deduces[124], the consequence of this disparity is that most of the digital content created and displayed hardly meets the concrete necessities linked to development for most underdeveloped communities.

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[120] Cf. WARSCHAUER, M., p.9
[121] Cf. Id., p.116. The emphasis is mine
[122] BARANOV, in BURTSEVA, L, et al., (2007) "Digital Divide: Introduction to the Problem" in GASCÓ-HERNANDEZ, M. et al (eds.) *Information Communication Technologies and Human Development* (Idea Group Publishing, London & Hershey, 2007), p. 63
[123] WARSCHAUER, M., p.82
[124] Cf. Id., p.81

Two complementary actuations prove to be relevant in this case in order to solve this critical barrier to participation and social inclusion referred to as "content". In the first place, it seems to be that the content of the information and knowledge available on ICT channels should require a thorough adaptation to actual necessities and conditions in order to enable or to enhance participation. This central task is developed by intermediary agents, mainly institutions and organizations of civil society. Indeed, a great preponderance of direct development projects consists in providing *mediation* between the global informational and networked world and those excluded. This *mediation* provides an essential nexus to enable participation. In Christian thinking, the strongest sense of participation – the participation in the divine life – is mediated through Christ. In human development, which is mediation for participating in this divine life, mediation has become the most powerful tool for making excluded collectives participate in the benefits of knowledge and information. But, I would argue that, frequently, actions of intermediation by themselves are not enough. In many cases, intermediary institutions limit their actuation to adapt and transmit information and knowledge from western to non-western contexts. By acting this way, participation is reduced to a narrow sense. Participation, here, consist in a one-way process, from non-western conditions to western conditions, and it is usually identified as a path toward "modernization". Certainly, those strategies may result in a substantial material improvement, as a consequence of endowing population with certain capabilities and skills, but it does not result in authentic development. The kind of *empowerment* obtained is not value-neutral and new values are inherently conveyed along with adapted knowledge and information. Even if it provides a voice to the voiceless, this voice may sound somehow distorted by western modes or, as it is frequently the case, interests. In this sense, direct strategies of development are often dependent on or derived

from economic strategies. However, genuine participation implies a sort of empowerment which is not solely capability-based. The individual and the collective implicated, with all their vital experience pre-capabilities must be normative, and they must count in their integrity, if we really want to be truly committed to participation. This implies that participation is a necessarily two-ways process, it consists of interaction. Consequently, authentic mediation requires partaking in both sides, in the same fashion that Jesus was truly mediator because He participates simultaneously in the divine life and in the human life, without any dimension prevailing over the other. Likewise, the authentic mediator in human development must embody both contexts if it wants to interconnect them. ICT is supposed to play this role, but we can realize that, because of this question of content, ICT itself needs a mediator. Ultimately, in dealing with the role of the mediator, we may well agree with Lebret, when he reflects that

> *I do not want to save him without him*. I want him to fulfill himself by his choices. I want to help him only if he accepts my aid, and I want him to exercise his freedom to the utmost. I do not want to substitute myself for him but to facilitate his advancement to greatness. […] *All men have something to teach me*. […] I want to free them by bringing them the things they lack. I should like them to have all things necessary to fill their needs. But it is better that they acquire things for themselves *by collective effort*.[125]

Indeed, this consideration of the question of the intermediation for the adaptation of the content seem to leads us to conclude that what is missing is the actual participation of those termed as "recipients" of development. To be sure, developmental strategies must start from them. This obvious conclusion connects with the second actuation necessary to

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[125] LEBRET, L.J., pp.11-12. The emphasis is mine.

remove the barrier related to the content of the information. This one consists in developing *relevant local content*.[126] What does that imply? Developing relevant local knowledge implies incorporating into the ICT's strategies for development sources of knowledge coming from those collectives targeted by those strategies. As stated above, individual and collectivities must count in their integrity, that is, the knowledge they embody also counts. As Lebret says in the last citation, they "have something to teach me". It is not only that they participate, their knowledge and the entire set of values and meanings that knowledge incorporates, is bound to participate. That implies that ICT, if it is to be of any assistance for development, must reflect such crucial contributions. In fact, as Francisco Sagasti proposes[127], any kind of technological commitment with development should reflect a blending between western and local knowledge. In stark opposition to this stance, the content of *relevant knowledge* or *useful information* for development is usually expressive of economic strategies that discard any local contribution. Thus, we need to offer an alternative; otherwise direct development strategies will continue being strongly dependent on economic factors and interests. Still, we must continue raising the question of to whom this ICT process benefits. Should we want the response to be "to the poor" it is the poor who must lead the process. But, who is the poor? There is no easy answer to this question, but I willingly adopt one definition: to be impoverished is to lack or be denied adequate resources to participate meaningfully in society".[128] What I like from this definition is the idea of "participate meaningfully", which is consistent with our normative conception of development taken from Goulet. In coherence with this requirement of meaningfulness, any

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[126] Cf. WARSCHAUER, M., p.81

[127] See SAGASTI, F., Knowledge and Innovation for Development (Edward Elgar, Cheltenham & Northampton, 2004), about this

[128] LEKOKO, R., & MOROLONG, B., "Poverty Reduction through Community-Compatible ICT", in GASCÓ-HERNANDEZ, M. et al (eds.) *Information Communication Technologies and Human Development* (Idea Group Publishing, London & Hershey, 2007), p.118

source of knowledge or information intended to apply to development must fulfill any person's necessity of meaning. As seen in the section on Goulet's above in this thesis, the source of meaning is the own community, which, therefore, must be referential for development. Consequently, by *local content of ICT*, it is meant "locally owned and adapted knowledge of a community where a community is defined by its location, culture, history language, interests and needs".[129]

In defense of the possibilities of ICT for direct development, we can assert that "information sharing and dissemination is a critical principle in defining the potential use of ICTs for poor people"[130]. However, this is only true under the conditions analyzed above, which we must summarize and reduce to a single idea: if ICT is to be useful for development, it must be, in a term employed by Rebecca Lekoko[131], "community-compatible".

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So far we have analyzed the ethics of ICT contribution to direct development by means of the principle of participation. In fact, we have focused on two aspects related to *empowerment* of *grassroots level*. These aspects have led us to the idea of "community-compatible". However, our concept of participation has two more conditions, *sharing* and *solidarity*. Anyone might well agree that these two elements are crucial conditions of community life. Indeed, no community can exist without them. A fulfilled idea of

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[129] GESTER AND ZIMMERMAN in LEKOKO, R., p.120
[130] LEKOKO, R., p.119
[131] Id., pp.118ff

community reclaims them, since they are a part of the definition of community. Incorporating solidarity and sharing as basic conditions for genuine participation reinforces the need for adopting ICT strategies that prove to be community - compatible. Even more, I will argue that ICT can basically be of some assistance for development if it is *community-building*.

2. ICT and the Building –Up of the Community

The second normative element in our appraisal of ICT's contribution to development is its connection with community. If genuine participation requires from ICT to be *community-compatible*, this section will argue that we need to make some progress in this area. Human development in the context of *Human Ascent* requires that ICT become more *community-building*, for community is the mediation chosen by God for humanity to advance toward Him. If the above section has stressed ICT's informational side, this section will stress the communicative possibilities and conditions of ICT.

Can ICT be described as an instrument to *build-up the community*? Responding to this question will be our focus in this section, for, as Goulet asserts, "more than any other instrumentality of modern life, technology ought to become what Illich calls a 'tool of conviviality', an aid to living well together in society."[132] That is, as argued above concerning the biblical passage of the multiplication of bread, the miracle – the technology – is instrumental for a higher end than the immediate one, namely, to build the human community. In the same fashion, the communicative and informative dimensions of ICT are

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[132] GOULET, *Can Values*, p.107

to be put at the service of this end. As in the biblical passage, in actual social life, human development is only attained by building up the human community. The transcendent meaning of development conceived as human ascent reminds us that this construction of the community must not be understood only in quantitative but in qualitative terms of human conviviality. The important result is the quality of the interrelation achieved, not merely to increase in extension. In terms of ICT, it is not only important that there be some connection, but that there also be interconnection; even more, not mere interconnection, but *interrelation*. Therefore, achieving *quality communication* is what matters. Again, the biblical passage is normative for this interpretation.

In order to introduce the above rationales in our discussion of ICT, I propose to make use of the category of "communicating humanity" drawn out from Yves Congar's ecclesiology and defined in the following terms: "the anthropology of patristic ecclesiology is that of a *human communion*, which finds its full authenticity in and through that communion, *because in this way it rediscovers a resemblance to God*. This is the meeting place of the anthropology and the ecclesiology, and it is this '*communicating humanity*' which is the subject of the Church's actions and attributes." [133] This category, applied to our quest for human development as human ascent, is to be considered normative for the rest of this thesis. The kind of communication that we expect to attain as proper to human ascent is drawn from this category, whose practical expression is, according to the definition, "communion of persons".

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[133] CONGAR, Y., *The Council as Assembly and the Church as Essentially Conciliar*, p. 59. The emphasis is mine.

When considering ICT, I argue that this category provides us with a term of comparison. Thus, while ICT adequately applied is claimed to give rise to a global *community of individuals*, the developmental model of human ascent entails the construction of a *communion of persons*, or better phrased in Congar's terms, a society of *persons in communion*. The significance of this comparison is better termed in the characterization of both models. The communication achievements of ICT aim at creating a global network of nodes (borrowing Castells' terms), thus generating a worldwide interconnection system which must reach everyone. However positive this achievement can be – and indeed it is – the long-term effect, under the influence of current socio-economic driving forces, is likely to generate a high degree of *homogeneous uniformity* accompanied by a high level of *individualism* within such a network. In opposition to this tendency, human ascent stresses development as a result of communion of *unique* persons. What follows is an examination of this comparison.

As was mentioned in the previous chapter, Castells attributes to ICT the function of generating social cohesion, and so does Anderson regarding the related knowledge society. Indeed, it is quite easy to appreciate a growing interconnection thanks to the expansion of ICT. However, as argued in the previous section, the unsolved problems related to the barriers of content, language and physical resources clearly establishes, in global terms, an asymmetrical interconnection. In spite of that, the massive phenomenon of blogging and other digital resources creates a cloud of shared information that, at least, generates an illusion of a society united through the net, where knowledge and information are supposed to be the fuel of that union. This phenomenon is at the base of the expansion and increasing influence of civil society and its attribution of a certain degree of global governance.

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At this point, I think that it is crucial to introduce the basic distinction of *global* community and *local* community. I argue that the current tendency fueled by ICT, while enhancing the generation of a global society, tends to impoverish the local community bonds. As a result, the effect of growing interconnection through ICT gives rise to a community of individuals interconnected rather than a true communion of persons. As frequently happens, the missing link is the middle level. On the base of the model of communion, I support a construction of global society as mediated by the local community, which is the context where the individual appears as a unique person, where the individual finds its set of vital meanings, and where the individual truly participates with his overall vital experience. Only under those conditions provided by a local community can authentic communication take place. Only such a superior communication is capable of generating personal interrelations that ends up in community-building experiences. This communitarian mediation is of particular importance when it comes to marginal or underdeveloped societies. It is important to recall the conclusions of the previous subsection, where ICT was compelled to abide the condition of being community-compatible in order to render developmental benefits to the targeted society.

Nevertheless, at any rate, this insistence on attention to the local community must result in sectarian isolation or in rejection of the project of construction of the global society. The small community must undergo a process of mediation in order to join the global society. By way of example[134], the community of Amish in the United States has

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[134] See SCLOVE, R.E., *Democracy and Technology* (The Gilford Press, New York & London, 1995), about this.

developed a strategy toward innovation that is strongly community-based, or in our terms, community-compatible, and it seems to be quite successful in maintaining a high level of social cohesion within the community. Nevertheless, their attitude could easily result in sectarian isolation by refusing to join the historical processes of society. Local community cohesion must never be attained at the price of debilitating the bonds that link all of humanity. Again, our model of communicating humanity is normative, and its "communional" strategy aims not only at maintaining social cohesion, but also at building the community: it is community-building. The developmental strategy must aim at building up simultaneously the small community and the global community. Therefore, ICT, as means for development, should benefit simultaneously both processes. The problem is that the societal construction made available by ICT tends to privilege extensive global connections to the detriment of intensive local interrelations. In fact, two phenomena are to be taken into account with regard to this aspect, and we must proceed to the analysis of this two: the issue of homogeneity and the issue of virtual encounter.

In the first place, as mentioned at the beginning, ICT communication tends to generate a certain patterns of homogeneity and uniformity. In what sense? As described above, globalization is characterized by homogeneous patterns of consumption as a result of the new socio-economic system based on innovation. To a certain extent, this effect exerts influences in poor societies, but is restricted by the differential in acquisition power. As we will see later, there is a second way in which ICT favors homogeneity and uniformity, at the level of culture and values, as Castells hints. However, in this section on community and communication, by homogeneity and uniformity I mainly refer to "the power of the new communication technologies to create an idolatrous sense of

simultaneous collectivity."[135] ICT creates a certain illusion of global community where there are no boundaries, neither geographical nor ideological in a broad sense. Furthermore, ICT induces the illusion that it generates a sort of communication that is free, egalitarian, and participative. It is even believed that this new communication is, in itself, a source of freedom and equality, and that in doing so, it conveys a superior mode of social organization which is identified with western democracy. In the same sense, the previous chapter posed the idea that only networked communication is communication. However, I oppose two arguments to this stance. To start with, "technology, as a formal means, cannot create communication. It can only facilitate or impede patterns of communication already present within cultures."[136] A second argument derives from the first one, since the illusion of simultaneous collectivity, in fact, disregards the essential mediations for communication. Since most of them are of the cultural order, the crucial mediation for communication is the uniqueness of the person itself which brings down any sense of homogeneity and uniformity.

The second phenomenon I would like to raise is the question of virtual versus physical encounter. Connecting with the previous discussion, I maintain that the condition of uniqueness of the person, which incorporates all the vital experience of the human being, is the condition for building authentic communities insofar as it is the condition for genuine human communication. Such uniqueness, however, can only be communicated in plenitude by the very presence of the person, the face-to face-encounter, aspect that ICT has devalued

[135] BROCK, B., p.288
[136] Id., p.265

extraordinarily[137]. As Christian Brock puts it, "internet communication is a development in extant patterns of communion and communication that emphasizes the rapidity of written speech and de-emphasizes physical presence."[138] With Brock, I argue that only physical encounter can give rise to genuine interrelation, to quality communication, that generates not only the feeling of community but also a commitment to the sustenance of communitarian bonds. In order to illustrate this, we can bring up a couple of examples. As for the first one, we can think of a multitude of cases in which a western person (or collective) has entered into contact with the reality of poor countries through multimedia channels, thus fueling a certain attitude of solidarity toward such situations and inducing a certain response. Two worlds have entered into communication, they have encountered one another. Nevertheless, the encounter that truly counts is not the virtual encounter – however real it might be – but the physical encounter that results from the physical presence in the specific place, facing the specific circumstances and, above all, physically meeting some concrete persons. It is then that the person is personally engaged with and committed to that people. And this changes that person's life, for then there is authentic interaction, authentic interrelation. That is a genuine communication, a quality interrelation, and a rich relationship; intensive in substance, not extensive in number; concrete, and not abstract. This is the kind of communication that truly generates community. Another example, in this case negative, is that of a member of a underdeveloped country that, surfing the Internet – mostly western-based – craves to reach the western standard of living and, at the risk of his life, gets into a western country, only to find out in person that the channels of

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[137] For Warschauer, "online communication *supplants* rather than *supplements* face-to-face interaction", WARSCHAUER, M., p.159 Emphasis in the original

[138] BROCK, B., p.277

communication produce distorting and confusing images of the reality. This is also, through physical presence, the authentic encounter, the authentic communication.

This importance of the physical encounter is one of the crucial teachings of the biblical passage of the multiplication in Mark 6, as analyzed in the first chapter. By encouraging people to gather in small groups, Jesus gets people to communicate and to interrelate. Because such a *personal* encounter takes place, *solidarity* and attitudes promoting *sharing*, which are the crucial characteristics of a true community, grow among them. Furthermore, Jesus turns what once was a crowd into a community of communities. The small collective is the mediation for the communion of communities.

By devaluing the mediations provided by physical presence and by the local community in favor of virtual communication and preference for extensive reach, ICT helps to create an illusion of global collectivity and global solidarity that is far from being authentic, since it lacks the essence of communication which is personal interrelation of the wholeness of the person. ICT, as a means and channel, is unable to contain or communicate the wholeness of the person.

3. Human Development as Mediation for *Human Ascent*

In the two previous sections of this chapter, I have attempted an ethical evaluation of ICT in the field of development from the perspective of ICT's instrumental dimension, as a means for information and as a means for communication, respectively. This section will try to complement that perspective by incorporating into the discussion the social

hermeneutics of ICT. As seen in the previous chapter, ICT embodies the set of meaning and values displayed in the various manifestations of the current informational, networked, and knowledge-based global socio-economic system, and that conform to what Castells calls the "spirit of informationalism"[139] Which spirit is this "spirit of informationalism"? This long citation from the work of Castells explains the point well:

What is the ethical foundation of informationalism […] what is the "spirit of the informationalism"? It is not a new culture, in the traditional sense of a system of values [nor] a set of institutions. […] It is a culture, indeed, but a culture of each strategic decision, a patchwork of experiences and interest. It is a *multi-faceted, virtual culture.* […] The spirit of Informationalism is the *culture of "creative destruction" accelerated* to the speed of the optoelectronic circuits that process its signal. The inclusion of most cultural expressions within this integrated communication system based in digitalized electronic production, distribution and exchange of signals has major consequences for social forms and processes. On the one hand, it weakens considerably the *symbolic power of traditional senders external to the system, transmitting through historically encoded habits: religion, morality, authority, traditional values, political ideology.* […] On the other hand, the new communication system radically transforms space and time, the fundamental dimensions of human life. Localities become disembodied from their cultural, historical, geographical meaning, and reintegrated into functional networks, or into image collages, inducing a space of flows that substitute for the space of places. *Time is erased* in the new communication system when past, present, and future can be programmed to interact with each other in the same message. *Cultural expressions are abstracted from history and geography* and become predominantly mediated by electronic communication networks that interact with the audience and by the audience in a diversity of codes and values. […] Not

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[139] CASTELLS, M, p.214

that people, activities or locales disappear. *But their structural meaning does*, subsumed in the unseen logic of the meta-network where value is produced, cultural codes are created, and power is decided. The new social order, the network society, increasingly appears to most people as a *meta-disorder*. Namely, as an automated, random sequence of events, derived from the uncontrollable logic of markets, technology, geopolitical order, or biological determination.[140]

Castells settles on the term meta-disorder. I started this thesis by noticing that contemporary society advances at increasing speed without knowing where it is heading, quite aimlessly. However aimless this society might be, there is a consciousness of progress, of social development, that is imbued with this "spirit". Or perhaps, it could be better phrased, in the words of Lebret[141], as an "illusion of progress" founded on a blind faith in infinite technological possibilities. Lebret warns us that, "by pushing technical progress *too fast* we often misjudge the true nature of progress. As valuable as technical progress is, it can provoke human regressions if [technological progress] is not accompanied *by spiritual progress*. If one insists too much on the first to the exclusion of the latter, humanity, while increasing its material conquests, will come to a standstill on the human level."[142]

At this point, it may be relevant for our case to wonder, not what development is, but what underdevelopment is, and what ICT has to do with it. It appears that the mainstream response would connect underdevelopment with a lack of knowledge. The lack of relevant knowledge and the existence of barriers to access to relevant knowledge exclude

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[140] CASTELLS, M., pp.214, 215, 407, 507, 508 The emphasis is mine
[141] LEBRET, J.L., p.117
[142] Id., pp.117-118

persons, communities and countries from the social and economic benefits that the explosion of knowledge brings to human development. ICT, against this backdrop, seems to be the suitable channel for both the creation and diffusion of knowledge. Now, the question is what knowledge is truly relevant? As argued above, what relevant knowledge is said to be is frequently made dependant and subordinated to economic interests related to the knowledge economy. As Evers puts it,

> The *value* of knowledge is determined by experts, mainly from the industrialized k-economies and by processes in powerful organizations like the big transnational corporations, US State Department and the World Bank. They determine what knowledge is essential and what is not. […] Poorer countries are excluded from access to vital knowledge goods, such as medicines, seeds, and educational materials. […] What *useful* knowledge is, […] *value* of knowledge is determined by market forces.[143]

If this is true – and I take it to be – the whole building of development based on human capabilities, and its inducement via ICT, collapses. For Evers, "standardization of knowledge or total commercialization of knowledge under the guise of 'relevance' is counterproductive for development."[144] Furthermore, if we connect this with Lebret's warnings mentioned above, what we have is a conception of development that results in a source of true human underdevelopment.

In trying to give a response to the question of what underdevelopment is, we can make a basic distinction. Thus, by underdevelopment we might mean a situation of basic material needs; besides, underdevelopment can signify a certain reductionism in human

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[143] EVERS, H-D, pp.6-7 The emphasis is mine.
[144] Id., p.15

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life. In the first case, it is of importance to recall the definition of impoverishment as the lack of adequate resources to participate *meaningfully*[145]. This lack of meaningfulness is the essence of the second conception of underdevelopment. Certainly, to a great extent, it has to do with a lack of knowledge, of relevant knowledge. However, relevant knowledge should not be characterized in terms of utility, but in terms of meaningfulness, in terms of identity. Knowledge, first, must be able to respond to the vital questions of identity and destiny, for, as Lebret wisely recognizes, "we cannot escape the problem of the supreme destiny of man and humanity". [146] On account of that, knowledge, which is socially embedded, as Warschauer argues[147], must be integrated in a "meta-narrative", a wisdom, which contextualizes the creation, use, and diffusion of knowledge for the benefit of persons and societies. As Evers argues, "a civilization needs 'meta-narratives' as a common ground, an anchorage for basic cultural values, to avoid being torn apart by dissent, fundamentalisms of various kinds and alienation. These meta-narratives and the basic cultural values have ideally to be "known" and accepted by all members of a society."[148] These meta-narratives, as opposed to the culture of informationalism that Castells relates, are deeply linked to a certain geographical and time coordinates, thus defining the history of a concrete community.

The hermeneutics of ICT in the quest for development favors, in stark opposition to this stance, a profound "devaluation of *local* knowledge", thus overriding, the meta-narratives, values, and meanings that shape knowledge and that make life and expectations

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[145] See above on this
[146] LEBRET, M., p.117
[147] WARSCHAUER, M., pp.199ff
[148] EVERS, H-D., p.8

for progress meaningful. Such hermeneutics, ultimately, lacks an orientating goal, a true humanistic goal. It lacks a normative conception of human being, and a normative conception of society to orient the progress of humankind. Instead, defined in terms of flows, it privileges the attainment of small short-terms goals and temporary realizations, easily mastered by particular interests and individualism. This is the backdrop for knowledge, which is to serve short-term attainments. Local knowledge, imbued with meta-narratives significant for the community, contains a normative horizon for human progress. In this scenario, the true relevant knowledge is the knowledge of God.

Such knowledge, as opposed to modern currents of spirituality connected to the emergence of this new society, is far from being abstract and unspecific. Certainly, our age is not deprived of a desire for spirituality nor of a certain sense of transcendence. As characteristic of the informational, networked and global knowledge-based society, the "New Age" movements stand forth, and for them, ICT is an excellent channel. Such "new age" spirituality consists in a blending of diverse philosophies and spiritualities from various traditions. ICT itself, characterized by a virtual language, an indivisible mix of materiality and immateriality, favors a certain sense of transcendence by creating an illusion of time and space vanishing. In contrast, the knowledge of God is strongly mediated by the historical circumstances of a specific human community. It is a knowledge mediated by a specific geography; and it is knowledge within time. It is a knowledge strongly committed to history and to concrete situations, and such commitment is expressed in the values that identify a certain community. Ultimately, it is a dynamic knowledge that is mediated by a living community of solidarity and sharing.

It is this knowledge that provides an answer to the quest for identity and destiny of the person and of the community. Genuine human development depends on having a response to those vital questions. Without this response, human development is at risk of becoming human underdevelopment. This knowledge, in Christian terms, is personified in Jesus, who is the normative scheme of human being and society, the genuine horizon of human development, the definitive channel for human ascent, and the ultimate response to the question of life. He, by "pretending to bring men a superabundance of life, defined this as 'eternal life' consisting precisely in the knowledge of the unique and eternal God."[149]

The passage of the multiplication of bread teach us Jesus' commitment to earthly conditions of life, the crucial importance of the construction of human conviviality, and, ultimately and most importantly, the mediation of those elements for definitive and supreme knowledge, that is the knowledge of God caring for us and calling us into human ascent toward him. The miracle – Jesus' technology – is the least important means for this truly important goal.

Because of Jesus' commitment to earthly conditions of life, "the Christian cannot oppose progress. He cannot be indifferent to any triumph of mind over ignorance, to any possibility of ending misery […]. But he knows that spiritual progress precedes all other progress, and he goes forward with men of good will."[150] Because of his stress on construing communion, "the man fully conscious of his humanity is only one who – making good use of things in order to rise and attain individual fulfillment as he helps other

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[149] LEBRET, J.L., p.45
[150] Id., p.115

to do the same – makes everything tend toward God."[151] Because in Jesus himself, we have the supreme knowledge for authentic life, "the great universal movement, the total movement toward God, is achieved […] in this supreme ascent inseparable from that of Christ."[152]Indeed, participating in Christ's life elevates humanity to the level of participation in God's life, which is the supreme human development as human ascent. Such participation, such ascent - our Christian faith teaches us – is community-based, is mediated definitively by the community, by the creation of authentic personal interrelations.

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On account of this stance, with Goulet, we must again set forth a conception of human development where "the crucial point lies in recognizing that a community's identity, cultural integrity, and meaning system are themselves the matrix out of which emerge the goals of authentic development for that community."[153] Such human development will serve as mediation for the ultimate human ascent, the universal and global movement of the human community toward God.

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[151] LEBRET, J.L., p.74
[152] Id., p.83
[153] GOULET, D., *Can Values*, p.92

GENERAL CONCLUSION – SOME PROVISIONAL OBSERVATIONS

Because we are at the beginning of a new socio-economic order in the terms described in Chapter Three, it is difficult, and almost reckless, to draw definitive conclusions from this study. In that sense, I prefer to speak in terms of *provisional* observations.

The first and most important observation I would like to stress is that, from a Christian perspective, human development must always be regarded within the context of a transcendental human progress toward a definitive fulfillment, which consists in participating in God's life. This appreciation points, in the first place, to the necessity of basing development upon a conception of human being and society. In the second place, it points to the mediating nature of every strategy and action for development, since human development itself is a means for a higher end. Goulet's conception of human development as a *human ascent* seems to satisfy our stance. By contrast, as argued in the Introduction, contemporary society appears to advance aimlessly at an increasing speed boosted by an explosion of knowledge and innovation.

Within our perspective, the biblical passage of the multiplication of the bread provides us with a meaningful comprehension of the role of technology in the advancement

of the struggle against poverty and deprivation. Technology, in general, and ICT in particular, meaningfully contribute to development insofar as it facilitates ways and channels of *authentic participation*. On one hand, the key feature of authentic participation is meaningfulness, which, in turn, makes the struggle against deprivation depend on an integral comprehension of the human being. In this sense, developmental policy must be founded upon the strong values that shape every person as a transcendental being. On the other hand, this type of participation is integral to a social conception based in the constitution and empowerment of *communities of persons*, as key mediation for the construction of the global society.

At this point it might be important to introduce a crucial clarification. The insistence in identity values as normative reference for developmental actions does not imply at any rate an intended option for stagnation or for isolation. The construction of human society and history requires a continuous movement forward, and "Christians believe that voluntary human progress is in the plan of God."[154] Indeed, the option for maintaining one's own identity values and sets of meanings demands that individuals and communities undergo changes, sometimes profound changes, as Goulet reminds us[155]. Connected to this compelling need for change, the creation, diffusion, and application of knowledge seem to become of primary importance.

Drawn out of this stance on development, the appraisal of ICT's role for development appears somehow paradoxical. Given the special nature of ICT, as an

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[154] LEBRET, J.L., p.118
[155] Cf GOULET, D., *Can* Values, p.93

informational and communicational channel, it seems to be a promising means to promote participation by diffusing relevant knowledge, and also to build a human community by enhancing communication. However, two facts hinder its possibilities. On one hand, we find its excessive dependence and involvement in economic interests, which make it an extraordinary tool to turn participation into competition in the realm of economic development. The experience of "emerging economies" and "new industrialized countries" speaks of certain degree of economic success, but is also tainted with increasing inequalities in terms of concentration. On the other hand, ICT transmit in itself the western world that created it and the values intrinsic to a society materialized and spiritually impoverished, excessively shaped by economic patterns. The current social rebellions taking place in several parts of the world[156] seems to be strongly related to a thoroughgoing use and diffusion of blogging and other ICT channels for the diffusion of information. While it is positive insofar as they seek for socio-political and economic transformation for deprived and oppressed population, these events might well be the result of a certain amount of confusion and misinformation. By way of example regarding such confusion, we can highlight the frequently misguiding connection between socio-political participation in terms of western democracy and high standards of living; mindful that connection is one of the top values that ICT channels widely diffuses, thus creating vain illusions and false expectations stemming from political changes. Regarding ICT's communication possibilities, as stated above, ICT's communication is linked to a certain pattern of destruction of the social cohesion so crucial for the reinforcement of human communities.

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[156] At the time of writing this thesis, in the year 2011

While development based on ICT, by focusing on economic strategies and policies, reflects a concern about economic sustainability, our approach based on values and meanings stresses that the most relevant dimensions of sustainability are of a social nature. Promoting and attaining social sustainability is primordial for the goal of development, in the same fashion that the economy must always be subordinated to the building-up of the commonwealth. The biblical passage of the multiplication of bread is significant for this stance. Social sustainability, therefore, must be the overall goal in terms of human development. By *social sustainability* I understand a social evolution that is *community-compatible* and, especially, *community building*. ICT, in addressing the goal of social sustainability, plays the paradoxical role mentioned above. Furthermore, innovation-based development makes the question of *redistribution* unnecessary and outdated, since an adequate economic growth would suffice to provide everyone with an increasing standard of living. Again, economic sustainability wrongly precedes social sustainability. Here, the biblical passage of the multiplication of bread is referential regarding another aspect: that sharing is the most powerful way to build and to reinforce human bonds; that the community that shares the means of life endures.

In spite of those circumstances, I maintain a positive and optimistic view regarding the possibilities that ICT may offer for attaining an authentic development, and, through these means, to contribute to a human ascent consistent with the Christian eschatological perspective. For the benefit of this consistency, ICT and the overall socio-economic system need to undergo a profound shift. This change consists in ICT ceasing to be a means exploited by economic powers to subordinate persons and societies, values and cultures, to uncertain promises, modes, and conceptions of prosperity and happiness. Instead, ICT

should become a means employed by persons and communities to subordinate socio-economic options to values and meanings. In doing so, ICT would contribute to cultivate a certain sense of the good life that is intrinsically connected to the participation in and the building-up of communities of life and sharing. At this point, in light of its current conditions, I consider, along with Goulet, that ICT is an *uncertain promise*[157].

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[157] GOULET, D., *The Uncertain promise* (New Horizon Press, New York, 1989)

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