

From Knowledge to Entrepreneurship, and to Wealth

The gist of intellectual entrepreneurship in 10 years perspective

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1. One and many worlds...

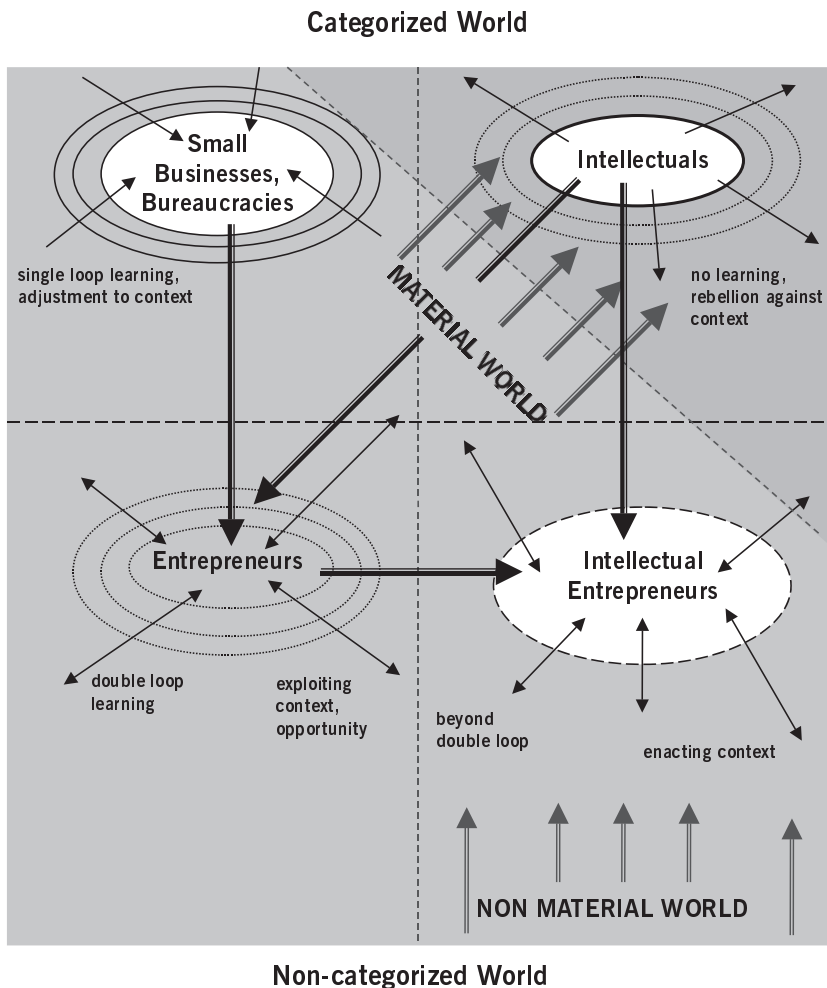
We all live in one world, and are often reminded of that through global disasters caused by Nature, by Mankind, or by both of them merging forces for destruction. The majority of us tend to perceive this world as fragmented, separated by natural and artificial boundaries, and not easily accessible to all. In addition to the purely physical, economic and political reasons that constraint our holistic understanding of the world, we impose our own mental barriers upon our global perception and understanding. We build our own road-maps to give us orientation and direction but our maps reflect our cultural bias, and our past-experience. We hear there exist a developed world, and an underdeveloped one. Even the mis-developed world can be identified. Are their boundaries clearly defined, however? Are they not overlapping? We often hear about growing connectivity, growing speed, continuous change, discontinuities, blur, chaos... All these phenomena can be neither neglected nor overlooked by those studying contemporary social, political and economic systems. They render categorization and systematization difficult, if not totally impossible. Yet we need some categories just to orient ourselves; at least to start with, or to depart from.

As figure 1 is intended to illustrate, there is just one world, non-categorized and difficult to comprehend. But still, there is a need to develop some categories to use while attempting to grasp and comprehend what we try to study and understand. We should recognize that the non-categorized world (the world which really exists) is multidimensional, and permanently changing. This is what makes it so difficult to comprehend. The categorized world (the one which we assume as some distant approximation of the real one) is neither unchangeable, nor stable. It also changes, but it is just assumed to have less dimensions and elements than the real one. Assumed, since it is constructed with mere purpose of better understanding of real processes taking place in the real world.

Within the simplistic approximation of the real world, which figure 1 is intended to illustrate, there are two main divides worth highlighting.

The first division is between the old XIX and early XX century MATERIAL WORLD that could be characterized as fabricating the fabric of the

wealth of nations in the fabric, and the one in which we already live, NON-MATERIAL WORLD, in which information is the main factor of formation and transformation.



The material world is one that is bound by necessities of survival: food, shelter, security. The non-material world is best described as a world in which information is the main engine of formation and transformation of economic factors of production. Somewhere, between the past and present, we have shifted towards what many call the ‘new economy’. The boundaries between these two worlds are not that solid as they used to be when education (at least at its higher levels) was socially and economically reserved for the few privileged ones, and when information traveled slowly and could not be received (and also comprehended) by everyone. Material world is deeply

penetrating the non-material one, since information and ideas are not cost free, and since there needs to be some material infrastructure for their development and dissemination. Also, the creators of ideas and of information do not tend to reside in cloisters of knowledge, but rather quickly discover both necessities and amenities of successful marketing of products of their minds.

The second division is along the learning dimension. Four kinds of actors can be distinguished according to the prevailing mode of learning.

Single loop learning, characteristic for repetitive behavior, helps the organization or individuals to adjust to context. This is the kind of behavior bureaucracies and small businesses encourage. Where there is no change, such behavior can facilitate survival at the individual level. So it is characteristic for a stable and consistent world, in which there is very limited, if any space for individual growth, for self-actualization, for becoming. This space is seemingly reserved for another actor—the intellectual. Still, in this petrified world, the intellectual has limited opportunities to interact with other actors. He would rather teach them. But since his teaching will be probably not comprehended, he might be deprived of the feedback from his potential listeners. Thus, he does not learn. He can only preach and rebel against the social, political, or economic context. Needless to say, these two kinds of actors can coexist in categorized, petrified environment where they are led by completely differing values—material ones (small businesses and bureaucracies), and non-material ones (intellectuals).

Mentioned above divisions fade with entrepreneur's entrance. His behavior is based on questioning rather than on accepting the prevailing norms of social and economic conduct. Hence double loop learning, and innovation which is naturally contingent on it. Led by opportunity, the entrepreneur tries not to adjust to the context (by doing what others do), but rather to exploit it (by doing different things, or doing same things differently). This demiurge of social and economic change still operates in the material world, but with all technological changes accelerating at tremendous speed the entrepreneur quickly realizes that the boundaries between that world and the other one of non-material character are meaningless and not relevant for business success or mere survival. So he gradually moves where pursuit of opportunity leads him. He moves towards a different kind of behavior based on still another learning mode—the one I coined “beyond double loop”. And here he meets a stranger, an actor from completely different theater, an inhabitant of a different world, a person speaking completely different language—an intellectual either tempted to enter the world of business, or forced to do it by biological and economic necessities. This is how intellectual entrepreneurship originates. Its beginnings are not easy to comprehend, not simple to follow and study. But results are amazing and dramatic. They are convincing and gipping.

2. Underlying processes

At least in the developed world two phenomena are radically changing the social and economic architecture of the market. The first one is expansion and diversification of both formal and non-formal education, and the second one—a gradual shift of composition of the basket of products and services away from prevalingly material towards the intellectual ones. Also intellectual content of tangible products increases dramatically. These phenomena are closely interrelated and affected by changes in broadly understood information and telecommunication technologies (ICT).

The growing role of intellectual products is visible on both consumer and industrial markets. On both these markets almost purely intellectual products, often devoid of their material supplement, successfully compete with those which clearly dominated several years ago. Thus, in manufacturing we witness expansion of technical consultancy—a purely intellectual but marketable service contributing to value creation in a client organization through technology development. In tourism or finance the same role is played by consultancy offered by various advisors. The Internet is competing with traditional printed media, often rendering material “wrapping” of intellectual product obsolete. Similar changes are observable in medicine, arts, and education itself. The intellectual component is substantially increasing in all products and services. From agriculture to steel manufacturing, new processes of production have radically changed all major industries. The intellectual component of production of crops now involves satellite technology to map precisely the application of fertilizers and water, and to monitor environmental and climatic changes. The production of steel is much more than the application of energy and raw materials by brute manpower. It involves sophisticated continuous mill furnaces. While productivity has increased in most industries, resulting in less direct labor to produce more goods, this productivity increase is backed by a new generation of computer programmers, computer engineers, process control experts, environmental experts, etc. In short, even in heavy industry, the intellectual component has dramatically increased during the recent years.

Growing educational achievement levels and standards contribute towards further diversification of social needs on one hand, and to bigger supply of potentially new entrepreneurs on the other. Intellectual products need new intellectual entrepreneurs. And with growing commercialization of all spheres of human life there are more instances of intellectuals turned entrepreneurs. Intellectuals also move towards entrepreneurship in non-intellectual, traditional businesses. There are countless examples of glaring business success of people with academic education and high standing in sociology, physics, mathematics or philosophy. Entering business world, they offer not new products only, but also new perceptions, procedures and—as a consequence—new kinds of management processes. All of this is especially visible in the countries under social, economic and political transformation

where government support for intellectual life dramatically decreases and market gradually replaces central regulation. The implications for these countries, and for the world community at large, are rather obvious. Unless the intellectuals are certain they can create wealth and/or play socially acceptable roles, they will likely use their capabilities and talents in other directions—the non-productive, the non-constructive, and even destructive ones¹.

The phenomenon of intellectual entrepreneurship is not confined to the countries under economic and social transformation, however. Social and market demand on one hand, and growing education and sophistication of entrepreneurs on the other, result in intellectualization of all spheres of economic life. This is an ubiquitous process that might be more visible in countries under transformation. Still it is probably more profound in the developed ones, simply because of the already achieved levels of education, and of growing consumption of other non-material products. But this process is also present and increasingly important in developing countries. It is increasingly important, because of both negative consequences of lack of opportunity and challenge to productively utilize intellectual capabilities, and of positive ones, resulting from possible enhancement of endogenous capacities for sustainable development.

Intellectual entrepreneurship is not only one possible kind of entrepreneurship, but also an aspect of any successful entrepreneurship as well. A study of it involves not only research on entrepreneuring intellectuals, but also on intellectual features of any successful entrepreneurship. Through studying intellectual entrepreneurs we detect the features of entrepreneurship which are contemporarily necessary for, or at least facilitating, entrepreneurial success. We also gain opportunity to better understand the growing intellectual content of economic activity of individual entrepreneurs and of their companies. As we explore the nature of intellectual entrepreneurship, we unravel its potential for improving standards of living and for contributing to sustainable development at both the individual and societal level.

3. Possible approaches to management

Entrepreneurship is part of management theory and practice². It is most often defined as approach to, part of, or even dimension of management. Management is an art and science of resource handling. The more resources

¹ Curry Jeffrey-Edmund (2004), “The Dark Side of Intellectual Entrepreneurship. Transnational Criminal Enterprise”, in: *Knowledge Café for Intellectual Entrepreneurship. Through or Against Institutions*, LKAEM Publishing House, Warsaw.

² Drucker Peter F, (1965), *Management. Tasks, Responsibilities, Practices*, Harper Colophon Books, pp. 45–47

we have, the more important is their efficient use, their administration. Administration is about already created resources, about accumulated wealth. Entrepreneurship is about resource creation, creation of wealth. Both approaches to resource handling are always present in management. But from the macro (and regional or specific sector) development perspective the very crucial question is which prevails—wealth administration or wealth creation.

The study of entrepreneurship is the study of individuals, systems, environmental factors that result in human activity that creates wealth through satisfaction of human needs in a voluntary market-based economy. This definition of entrepreneurship, which I owe to Professor Charles Stowe, encourages research on those factors that enhance standard of living, promote employment and provide ongoing, legitimate business and income supporting sustainable development. Entrepreneurship, in this light, is not the removal of wealth from one party to another, but the creation of new wealth that arises from social and economic synergy. It is not a primitive, early capitalism throat to throat competition of zero sum game character, but a cooperative game for better living within the ever changing and ever smarter (if not even vicious) Nature.

Most literature on entrepreneurship comes from America, so far the only truly entrepreneurial society of the world. Entrepreneurship was for long time defined in that country as “creation of something of value from nothing”, or—to make this definition more academically acceptable—“... from practically nothing”. The initial study of intellectual entrepreneurship indicates that this very “nothing” becomes the quintessence of this new kind of entrepreneurship.

Both managers and “traditional” entrepreneurs have always dealt with material resources. They administer them and create them; create and administer. For intellectual entrepreneurs, it is not visible material capital, however, but invisible intellectual one that they start with. The resources they use and leverage are personal (often tacit) knowledge and personal networks. They rather embrace business challenge (sometimes out of sheer curiosity) than seize or tap opportunities, which is typical of vintage entrepreneur. Entrepreneurship is often incidental for them, just an instance of reaction to environment change. But once enacted, concrete venture often breeds new challenges, previously not experienced fascination, and both physical and emotional involvement. Intellectual entrepreneurs learn that the best way to predict the future is to create it. And while doing this, they discover the joy of creating a win-win type of personal business relationships. Thus, they do not only leverage and further develop their own personal human capital, they also create conditions for development of organizational, structural and customer capital.

4. New kind of entrepreneurship

As intellectual entrepreneurs join the business world, they face the same standards and tests other business actors do. But due to their already achieved social status (they are usually welcome in many places, hailed to perform varied jobs and functions), their familiarity with criticism, and their readiness to experience the unknown, they seem to have less risk aversion than traditional entrepreneurs. Their learning mode is also different. They neither adjust to existing context (single loop learning), nor exploit it (double loop learning). They see what and where others do not see, and have both competence and courage to enact what becomes a new context. All of this allows them to accept instability, and to incorporate change into the very systems they design to deal with reality. They have not only sensibility to but also comprehension of chaos. While anchoring themselves to their own business, they not only continue seemingly chaotic behavior but also encourage chaos and teach their partners not to fight it but rather to deal with it.

In any growing and developing venture most tensions are generated by unavoidable conflicts between requirements imposed by resource creation (the very essence of entrepreneurship), and by resource handling (the very essence of administration). Successful intellectual entrepreneurs do not resemble traditional Schumpeterian creative destructors. They are neither necessarily destructive in their creation process, nor are they inevitably to be destroyed by their potential successors. They are not “one season winners”. They start and continue their business adventure as chaos tamers. Unlike Schumpeterian industry captains, they combine social roles and functions of innovators, inventors, managers, and capitalists (intellectual capitalists!). Thus, without any doubt, they face personal risk of failure. And, once successful, they learn how to combine the administrative function of resource handling with requirements imposed by the need for continuous innovation. They learn a need of constant change. They seldom destruct and seldom tame people. They manage chaos and thrive on opportunities it provides to the knowledgeable and the courageous.

5. Initial research and its current stand

The systematic study of phenomenon of intellectual entrepreneurship is still only beginning. The term was used in 1996 independently by Robert Chia (University of Essex)³, and by Thomas Dandridge (then at Grand Valley State University, Michigan), Bengt Johannisson (Växjö University) & Stefan Kwiatkowski (Leon Koźmiński Academy of Entrepreneurship and Management)⁴.

³ Chia Robert, 1996, “Teaching Paradigm Shifting in Management Education: university business school and the entrepreneurial imagination”, *Journal of Management Studies*, 33:4, July.

⁴ “Intellectual Entrepreneurship” workshop at the 41st ICSB World Conference at Stockholm, 1996, with participation of Bengt Johannisson, Thomas Dandridge, Feiwei Kupferberg and Stefan Kwiatkowski.

During the same year some empirical instances of successful intellectual entrepreneurship were identified by Dandridge in the USA, Johannisson in Sweden and Kwiatkowski in Poland⁵. A more intensive and better-structured study of intellectual entrepreneurship was carried out in Poland from 1997 to 1999 under the grant of Polish Committee of Scientific Research⁶. Although still exploratory in nature, the research was conducted to clarify several hypotheses generated during the very initial stage of conceptualization. The underlying assumption was that economic growth, social change, development, and sustainability at the level of the firm, sector or society, require new managerial skills, new kinds of organizational learning, new resources and new ways of dissemination and application of scientific and technological advances. In May of 1998, UNESCO/EOLSS⁷ Chair in Intellectual Entrepreneurship for Sustainable Development in the World of Work and Higher Education was founded at the Leon Koźmiński Academy of Entrepreneurship and Management in Warsaw with the goal of researching the issues related to intellectual entrepreneurship and sustainable development.

The idea is getting popular. In 1997, a professional development program in Intellectual Entrepreneurship was established at the University of Texas at Austin. Its mission is "... to help students realize the value of their expertise, discover their disciplinary identity, and become successful academic professionals"⁸.

Within the UNESCO/EOLSS Chair the research has been conducted in three societal sectors, and at three levels:

- industry—the level of the firm and of its manager/entrepreneur,
- academe—the level of knowledge creator and disseminator,
- secondary school—individual student level.

All this research is based on intensive interviews and surveys. Longitudinal studies of individual ventures/enterprises have also been initiated.

Research conducted in the industry clearly indicates a broadly perceived need for new managerial skills and for new modes of organizational learning. It also illustrates growing product diversification and intellectualization on both industrial and consumer markets. Furthermore, it has revealed that people with non-business education have often enjoyed great business success. One serious question requiring both longitudinal and crosscultural studies is to what degree the phenomena that are observed in Poland and some other post-socialist countries are typical throughout the world. Are they not simply resulting from deregulation and decentralization, represen-

⁵ Kwiatkowski Stefan and Edvinsson Leif (eds), 1999, *Knowledge café for Intellectual Entrepreneurship*, Warsaw, Leon Kozminski Academy of Entrepreneurship and Management.

⁶ Kwiatkowski Stefan, 2000, *Przedsiębiorczość Inteluktualna*, PWN, Warszawa.

⁷ EOLSS is *Encyclopedia of Life Support Systems*.

⁸ "Developing Intellectual Entrepreneurship", 2001, *The Scientist*, March 5, page 32.

ting a clear example of deferred entrepreneurship, impossible under central planning regimes?

In the academe, leading scientists representing natural and management sciences have been asked about the content and goals of their teaching, about the reasons of evident business success of nonbusiness graduates, and about the skills and structures needed for application of scientific advances to successful business ventures. The initial results suggest that in so moderately developed countries as Poland, Russia or Latvia natural science education constitutes a very solid base for both understanding development of science and technology, and for practical application of their results to varied businesses. Professors of natural sciences seem to be emphasizing the “Paradigmshifting mentality”, claimed to be necessary for sustained success in contemporary changing world, much more often than management professors. This is probably caused by the fact that contemporary experimental research itself becomes an entrepreneurial and managerial venture requiring orchestration of intellectual and material resources. The very participation in this research might then be a good preparation for eventual business ventures.

Our research conducted in tertiary and secondary level schools has been so far less conclusive. It is still in the preliminary stage and definitely requires both longitudinal and comparative (crosscultural) perspective. The basic assumption here is that young people in secondary and tertiary level schools have some orientations, or attitudes towards entrepreneurship and management, and that these approaches can (should?) evolve as a result of formal and informal education, and of social maturation.

6. Sustainability at societal level and at new business level

Our empirically conceived of research does not aim at macroeconomic conclusions yet. But at least the most obvious ones should be signaled.

a) Regardless of achieved level of technological development, each nation needs different kinds of research, including the basic one, necessary to develop some new technologies, but above all—to facilitate communication with the world community in its future only common language—the language of science and technology. The most important element of this two-way communication is technology assessment necessary to understand possible applications and limitations of generic technologies (such as those on which broadly understood systems of ICT are based). The ability to successfully evaluate research encourages nations to participate in the global community. Natural science and engineering education will be always necessary in any country. These are all quite well known truths repeated at hundreds of high level international conferences addressing questions of sustainability of nations under conditions of ever growing cost of basic research and high class education, and of their alarmingly growing concentration in a few developed countries. Empirical data on

educational background of successful new business founders could shed some fresh light on this problem. There is a need, however, of much broader and deeper research to provide a thorough analysis of this phenomenon.

- b) Sustainability at the national level is no doubt directly dependent on growth of a viable business sector. And here our initial stage analytical study of new Polish businesses started by intellectual and non-intellectual entrepreneurs reveals a startling reality. The first ones grow faster, bring more profit and employment, require less outside financial capital, become unquestionable business leaders. The latter, although originally often also amazingly successful, seem to be much more vulnerable to market competition, and, not seldom disappear, unable to withstand the 'winds of creative destruction'. It would be quite naive to attribute this difference to just personal characteristics of the entrepreneur, although, through his/her human capital accumulation they certainly play significant role. Much more important seems to be the nature of innovation on which new venture is based..

Intelligent enterprising requires a global business perspective. Business success might be more volatile globally than perceived in a local context. Successful business navigation is impossible without the ability to perceive both the immediate and remote environments. But mere perception will not suffice. True, it could save money and effort while facilitating safe exit. Nonetheless, by no means, will it guarantee business success. Success seems to be contingent on the nature of innovation.

For the purpose of brevity let us distinguish only two types of innovations—original and imitative ones. For closed systems and highly regulated markets both types of innovation might bring similar effects. This is why Richard Cantillon's XVIII century definition of entrepreneur as market equilibrator through buying low and selling high is appealing to contemporary critics of Schumpeterian idea of innovation as a force of creative destruction. Nonetheless, globalization of the world requires a very careful approach to the repeated platitude of context specificity of innovation. In our contemporary global world, innovation is context-specific only if it contains some new elements specific for this and only this context. If it is merely repetition, however, of the same product or same process introduced somewhere else (a typical 'me to' behavior) the seemingly context specific innovator is quite vulnerable to fierce competition. While the initial risk of introducing an innovation transferred from another place is limited, the entrepreneur faces an unlimited potential for competition since entry barriers for others are still relatively low.

While discussing features of successful entrepreneurship, we arrived at classical considerations of free competitive market. Such market seems to exist in small business realm only. Real entrepreneurship is impossible wit-

hout original (certainly also context specific) innovation temporarily reducing competitive forces of the market. Here, intellectual entrepreneurs play a vital role as economic and societal agents of change. Through participation in different environments, through their openness and criticism, but above all due to the nature of their learning process (beyond double loop), they become contemporary heroes of entrepreneurship. Their behavior pattern is neither Cantillonian nor Schumpeterian. It is difficult to comprehend and explain within a traditional perspective and with the use of traditional tools of research and reasoning. But it is certainly attractive and worthwhile to study!

7. Intellectual entrepreneurship in 10 years perspective

In social research 10 years is not necessarily a long time. As mentioned above, it is only 10 years since the term (not concept yet) of intellectual entrepreneurship was mentioned (not formulated yet) independently by Robert Chia on one hand, and Dandridge, Johannisson and Kwiatkowski on the other. For Chia, intellectual entrepreneur was a new learning environment creating teacher. His inspiration was probably pivotal for a professional development program in Intellectual Entrepreneurship, established in 1997, at the University of Texas at Austin. Its mission is "... to help students realize the value of their expertise, discover their disciplinary identity, and become successful academic professionals".⁹ Thus, Chia recommends, and Austin Program tries to implement, measures needed to create a new learning environment. Within this new learning environment the Intellectual Entrepreneur is a new mind creating academic. For his/her integrity and credibility he should do what he asks his students to do. While making others think creatively, he should also act creatively, bringing his creative entrepreneurial experience into the class situation.

For the author of this article, and for his initial partners—Dandridge and Johannisson, as well as for the members of "the invisible college" built around created in 1998 UNESCO/EOLSS Chair in Intellectual Entrepreneurship in the World of Work and Higher Education for Sustainable Development, intellectual entrepreneurship has been understood as what entrepre-
neuring intellectuals do. The archetype of intellectual entrepreneur has been intellectual with broad and diversified knowledge base, critical and unattached¹⁰, a real person (not his theoretical model) whose behavior transgresses double loop learning, who undertakes a venture others think impossible, while doing what he himself for a long time had not even dare to ponder. The social arena for so understood intellectual entrepreneur is the market. He operates within the business environment even if his departure point

⁹ "Developing Intellectual Entrepreneurship", 2001, *The Scientist*, March 5, page 32.

¹⁰ All three characteristics after Etzioni Amitai, 1968, *The Active Society*, Free Press, New York.

is some educational or research institution. Needless to elaborate, with his accumulated experience and wisdom, while finally eventually retired, such a person might be a precious intellectual asset for any educational institution.

During ten years of research, of which eight within the structure of loosely tied UNESCO/EOLSS Chair, five collective books were published within special Leon Kozminski Academy of Entrepreneurship and Management Publishing House knowledge café for Intellectual Entrepreneurship series:

- Kwiatkowski Stefan and Edvinsson Leif (eds), 1999, *Knowledge café for Intellectual Entrepreneurship*,
- Kwiatkowski Stefan and Stowe Charles (eds), 2001, *Knowledge café for Intellectual Product and Intellectual Capital*,
- Kwiatkowski Stefan and Sadlak Jan (eds), 2003, *Knowledge café for Intellectual Entrepreneurship through Higher Education*,
- Kwiatkowski Stefan and Houdayer Patrice (eds), 2004, *Knowledge café for Intellectual Entrepreneurship through or against Institutions*,
- Kwiatkowski Stefan and Sharif Nawaz M. (eds), 2005, *Knowledge café for Intellectual Entrepreneurship, and Courage to Act*.

Along this author there has always been one different co-editor for each book within the series, a person of different walks of life, and of different professional interests and carrier. Within the five publications we have had exactly 50 contributors from Europe, Asia, America and Australia. Only 18 of these authors are Polish.

While writing this text, I have on my desk another book within the knowledge café series. Titled “Knowledge café for Intellectual Entrepreneurship. Wiedza, Przedsiębiorczość, Bogactwo”¹¹, it is just a selection of Polish language translations of papers contributed by non-Polish authors to the knowledge café series books. Another Polish language book, and most probably the only monograph of intellectual entrepreneurship published so far in the world, is this author’s “Przedsiębiorczość intelektualna”, based on research conducted in Poland and abroad, and published by PWN Publishers, in 2000.

In short, a lot has been done, and much more should be still coming. Thus, continuing effort of the mentioned above invisible college built around UNESCO/EOLSS Chair is still needed.

¹¹ The subtitle in Polish means: *Knowledge, Entrepreneurship, Wealth*.