1. Introduction

Goal of this work is to explore economical and professional significance of Internet in the veterinary medicine and in the veterinary practice, and to define suggestions for further development of Internet, especially in Croatia and the region.

To have broader view of this problem, I'll use two different approaches. First one is theoretical and it is based on research of our society as self-renewing progressive system and comparison with other sophisticated self-renewing systems, especially with animal organism. Another side of approach is practical; I'll summarize numerous practical, mainly statistical data about internet usage in our community.

Conclusion of theoretical and practical contemplations will be premises for a Plan of development of Veterinary Internet (in our region).

In my work I'll try to:

1. Work out in detail theory which connects development of civilization and development of organism (parallels between Internet – Central Nervous System, and other mass-media – hormonal system.
2. Explain why Bill Gates said 'Internet is just temporary fashion.' 10 years ago.
3. Define present situation in Croatian Veterinary Internet, and compare it with Veterinary Internet in the world and usage of Internet in other human activities (other than veterinary medicine).
4. Define internet and theoretical possibilities of its practical application.
5. Say few words about copyright protection in Veterinary Internet
6. Elaborate notions: information market, needs, concordance with academic community...
7. Propose few possibilities for progress in usage of Internet in veterinary profession in Croatia and in the word.

2. Data Review from literature

More than two centuries ago, in the year 1776, Adam Smith, Scottish moral philosopher described market this way:

"Every individual ... endeavours as much as he can ... to direct ... industry so that its produce may be of the greatest value ... neither intend[ing] to promote the public interest, nor know[ing] how much he is promoting it… He intends only his own gain, and he is in this, as in many other cases, led by an *invisible hand* to promote an end that was no part of his intention... By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it..."

Although *invisible hand* is a phrase that is often used, for Adam Smith *Invisible Hand* was a social system (mechanism) which manages economy. That was the beginning of a big campaign on attitudes about economy which were until that time presented by politicians and authorities.

More than two centuries after he mentioned 'Invisible Hand', the base of that mechanism has not been changed. Later as Information Revolution started, the first big changes happened.

Main factors for building new economy are (DeLong i Froomkin, 2000.):

Excludability – in a moment only one person is able to use one product. For example, a car can be driven only by a single person. Opposite of that, one computer program can be multiplied very easily, almost at no cost. The same situation is with intellectual services which are the essential part of veterinary service.

Rivalry – classical understanding that one big producer can produce chipper than two small producers is not valid if cost of producing another copy of product is near zero.

Transparency – if we have data about the number of produced items, and if we know how to meet a demand, it is very easy to assume situation on the market. On the contrary, if consumers can multiply products (programs and information) on their own, it is very hard even to assume situation on the market.

Meaning of these factors has been greatly changed during implementation of information technology, and the consumer, as essential factor in modern economy, has new habits, so we need to talk about New Economy.

Therefore, 226 years after Adam Smith mentioned 'Invisible Hand', David Ignatius (Washington post, 28.02.2001.) wrote:

"The only models that have a chance in the 21st century will be ones that share the network effects of the New Economy. They'll be coalitions of interested nations, private companies and non-governmental organizations. They'll use online polling to speed their work along. And they'll focus on setting standards or norms - much like the informal bodies that built out the Internet without treaties or legislated rules and regulations. [Jean-Francois] Rischard calls them 'Global Issues Networks.' And he hopes that, over time, they'll issue ratings that measure how well countries and private businesses are doing in meeting specified norms on the environment and other issues that affect the welfare of the planet. The process will be quick and non-bureaucratic. The premise will be that if you don't meet the agreed-upon norms, you will be exposed as a rogue player in the global economy."

Predict results of such changes, even one second before they have happened, can mean extremely big benefit, or in the worst case, safety that you will not be exposed as a 'rogue player in the global economy'.

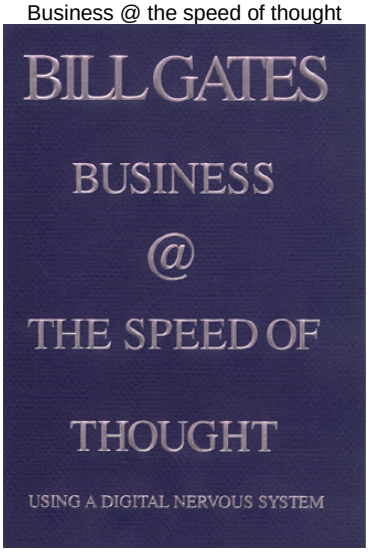
As we are talking about big, and for inert business subjects very dangerous changes, which penetrate through our society from top to the bottom, phenomenon of internet has caused great public interest. That has stipulated big number of publications. Unfortunately, majority of publications is focused only on changes which Internet causes in specific segments of our society (and/or economy). Deficit of works which are contemplating Internet in total, are contributed by facts that was mentioned by David Ignatius - Internet standards and norms are postulated by non-formal bodies – and therefore it is extremely hard to define those standards clearly.

The most complete vision of Internet development has been offered by Bill Gates, not long time ago the biggest sceptic of Internet, in his book Business @ the speed of thought (1999).

Specific thing for Bill Gates and Microsoft – company he is leading - is that they have come into the Internet market very late. Even in the first half of 90-is, Bill Gates was well known as a big Internet sceptic. Fortunately, when he found his mistake, he abruptly changed the direction, and Microsoft was – with him at the head - intensively incorporated in the development of Internet. Turnover of the big Microsoft capital enabled its owner to enter into the Internet market through the doors (Gates) wide open, although a little bit late.

When Microsoft, with free Internet Explorer came into the market, the market accepted a free browser as a standard. People from the Netscape, formerly the most popular browser on the world, resisted to that standard for quite a long time, hence Netscape – which until that moment had been browser No1 – was 'exposed as a rogue player in the global economy'. Everything was done according 'informal norms' as David Ignatius has explained. Statistically speaking, presence or Netscape on the market has fall from over 80% to less than 3%.

Business @ the speed of thought



Bill Gates

Big economical success of Bill Gates has brought him the title of one of the biggest genius of the present time, but also an opinion of part of community that he is a monopolist who is stopping or slowing down progress. In this work we are interested in his ingenuity which allowed him to become, from absolute Internet outsider, leading person of Internet development. For example, OnLine magazine (Zagreb, 27.11.2002.), article about Information Technology forum in Copenhagen state: 'Bill Gates vision is accepted by almost all people that are involved in new technologies'. In the same article, all visions of other corporations are described as 'pleonasms mainly useless for real life and work'. Practice shows that 'vision of Bill Gates – access to Web and information all the time from every place and from all equipment' is a wining combination.

Of course, we can not forget that the big capital Microsoft possesses, enable it to make many visions real. Same capital allows it to surmount the failures which would be disasters for smaller corporations.

In his book 'Business @ the speed of thought' Bill Gates has directly or indirectly touch almost all segments of our society in which we use internet. However, segments are elaborated separately; he did not observe Internet and our society as one integral thing. Therefore he did not constitute clear system, what is essential for making model that could be the base for a long term prognosis.

In our discussion about the role of the Internet in our society we should not forget previous works of Bill Gates where he was attacking Internet conception very aggressively. I think that it is important to find out why did he choose such wrong attitude. The understanding of his attitude may be of great help.

What did Bill gates suggest?
When Bill was talking to board of directors of a German financial institution, many of them were in their sixties, they asked him: 'OK, now when we made agreement that in next 10 years banking will be completely different thing, what should we do now?'
'Practice hands-on usage. Senior executives should use email and other electronic tools to get familiar with the new way of doing things. They should see what their competitors' Internet sites look like. They should become Internet users and consumers. Buy some books and arrange some travel over the Internet. See what it's like. (Bill Gates 1999, Business @ the speed of thought).'

The old proverb says; 'One learns best by his own mistakes'. If we add to that fact that Internet is usually connected with amounts of few billion dollars per year, it is clear that it is much better to 'learn by somebody else's mistakes'. In practice, it means that we have to define system on which we can learn.

Many books about Veterinary Internet have been edited, but basically they are elaborating practical usage of very universal Internet rules in veterinary medicine. Therefore they are not very different from works about application of internet in other professions. The main characteristic of such works is that they elaborate universal problem from perspective of one profession, and that is limiting our view from early beginning. Anyway, we can't forget great practical significance of such editions for one profession.

3. Discussion

3.1. Internet, theoretical approach

The main purpose of the first part of my paper is to define our society, organism and thought as self-renewing progressive systems, and to find out common characteristics of those systems.

The starting point is a fact that self-renewing progressive systems have to obey very strict rules, and need to have very clear structure to keep self-renewing and progressive attitude. Development of such systems is, in essence, based on few elemental logical mechanisms (positive and negative feed back). That's why they have identical nucleus. Basic characteristic of such systems is progression. Progression means that bad elements are replaced by better elements. Therefore with development, the structures of such systems become more and more similar (analogous).

After defining the main characteristics of those systems, I'll make parallel between organism and human society, then between economy and informatics science, and also between physiology and neurology as basic characters of those systems.

3.1.1. Internet; what is it?

In time when Bill Gates Empire earns more than few billion dollars a year on Internet economy, very few people will remember that mister Bill Gates, not so long time ago (1994), marked Internet as 'fashion which will not last long'. So, even 'Internet time genius' was confused what it is all about?

How can it be?

Technically speaking, Internet is a big number of computers that can exchange data. In time of constant, and almost unlimited progress in possibilities each computer has, Internet can be dangerous, and as a vector of numerous computer viruses*, trojan horses** and subjects like that, and as great danger for copyright protection, and finally as base for numerous illegal actions. From the other side, growing possibilities each computer has indicated that computer binding is 'maybe not necessary'.

> *Viruses - A program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes. Viruses can also replicate themselves and make damage on computer.
> **Trojan horses, usually free program that is disguised as something benign, such as a directory lister, archiver, game (and because of that owner of computer allow installing of such program), but under this cover it is malicious, security-breaking program.

At that time computers experts were elaborating Internet from perspective of single computer, so we can compare them with student of veterinary medicine who studies microbiology, and who, excited by numerous possibilities each microorganism poses asks: 'Why should such powerful cells (cells – computers) be joined?'. Furthermore, it is evident that cells associating has many imperfections (much slower evolution, reduced adaptability, and sensitivity to many one cell organisms and viruses…).

While, from one side, proof of benefits made by uniting numerous cells has been well known for very long time – that is animal or human organism in which information circulate through nervous system, final result of uniting computers is not defined and it brings very revolutionary news each day. If we make parallel between our Society and Organism, then between Internet and Central Nervous System, we can make things little bit clearer.

Opposite to primary computer science approach, veterinary approach suggests contemplating each component of system as part of integral indivisible system. Therefore, if we use veterinary approach, we should look at the Internet as a component of our society. Today Internet is not connected just to computers, because mobile phones, refrigerators, cars and so on are directly connected to Internet. Indirectly, Internet is influencing all aspects of modern life. Internet is penetrating tissues of our Society, the same way as the nervous system has been penetrating all tissues of body, with final result ➔Central Nervous System.

Brief (Summary): Internet is the component of our society for data exchange.

Although our Society and living organisms are different at the first sight, both are progressive self-renewing systems.

For further elaboration I'll define system, logic, science, and economy.

3.1.2. Self-renewing progressive system

3.1.2.1. System

According to definition from Encyclopedia (Opća enciklopedija J.L.Z. 1980) system is a unique regulation of components in whole; group of organically connected principles that are making broad plan of some science or investigation model; form of social organization or way it is constituted. The first definition completely covers other two so we can conclude that system is a unique regulation of components in integrity.

Self-renewing progressive system is a system which inside itself has mechanism that allows him constant progress. Opposite from, for example car – which has very limited lifetime, during which there is no progression, our Society, same as living organisms, has mechanisms that allow them constant progress*. That is why they are self-renewing progressive systems.

> *Fact that living beings gets older and die, can look contradictory to statement that they are self-renewing progressive systems. It is because getting older, and death of organism are adaptation to one of elementary rules of life – which is base for self-renewing and progression of species; evolution. If we assume that in specific species part of genetic code which is responsible for getting older and dieing, fail its purpose, that would inevitable cause stopping /slowing process of evolution.
> Similar situation happened with dinosaurs. Although there are many different theories about climatic or some other changes which destroyed dinosaurs, it is certain that dinosaurs had extremely long lifetime, or in other words, process of getting older was very slow and consecutive by that, change of generation was slow. Big period between generations causes slow evolution. According by that, maybe there were no very big or very fast climate changes. Finally, small mammals survived those changes. Dinosaurs did not keep up with evolution, and they let other species (families) of animals to outrun them.

3.1.2.2. Logic

> Logic is not science about visible forms of thinking, but about laws about development of all material, natural and spiritual things, result, sum, conclusion of historical cognition of the world.
>
> [Lenjin; About question of dialectic]

Definition of logic (gr. art of thinking, discussing) has been greatly changed through history. Therefore we can say that logic is:

1. the science about thinking;
2. the way somebody thinks;
3. the laws according to which specific things are happening.

If we based upon first two definitions, suppose that thinking is a sequence of specific actions, or conclusions which are happening according to specific rules, we have come to the 3rd definition: logic is the science about laws according to which specific things are happening. Therefore we can talk about logic of work of specific mechanical, digital, economical or other system.

Thinking is a system which generates conclusion from specific premises. At the same time, thinking has all characteristics of self-renewing progressive system; one thought often generating second one, wrong thoughts are very often diagnosed and replaced with better ones. Therefore: thinking is self-renewing progressive system.

Each system is based on laws which uniformly constitute components all together, so we can say that thinking is the group of laws according to which conclusions are drawn.

Logic is the science about thinking, so it means that logic is the science about self-renewing progressive system (which is from specific premises making conclusions).

We have 3 important premises:

Thinking is self-renewing progressive system.

Organism is self-renewing progressive system.

Society is self-renewing progressive system.

Conclusion: thinking = organism = society

If we remember that system is unique regulation of components in a whole, things will be a little bit more understandable. In these 3 system components are very different, but the way they are organized in one entity is identical.

Way of organization of these systems is the main subject of this elaboration.

3.1.2.3. Induction and deduction

The most important division inside logic is division on inductive and deductive conclusions (Kovač 1998). That division was very strong through history, so even today logic is divided into inductive and deductive concept. On the opposite side to the inductive and deductive concept of logic there is modern dialectic logic. Dialectic logic says that inductive and deductive logic are always together, so in the process of thinking we can not separate one of them in clear form. Because induction and deduction are elemental processes in thinking, which definitely describe thinking as progressive self-renewing system, I'll say little bit more about them.

Deduction (lat. deduction; excluding, taking out) is a process of reasoning by which more specific consequences are inferred by rigorous argument from more general propositions.

Example:

Premise 1	Animals need food for life
Premise 2	Dog is an animal
Conclusion	Dog needs food for life

During deduction, from one general proposition all statement are excluded except one, so we can say that it is negative feed back mechanism.

For illustration I'll present deduction this way:

	Classical deduction	Negative feed back mechanism
Premise 1	Animals need food for life	So, dogs, cats, chickens, cows, reptiles, insects, fishes, birds, deer, carnivores (…) need food for life
Premise 2	Dog is an animal	With negative feed back mechanism we'll exclude all animals except dog, and we'll get conclusion:
Conclusion	Dog needs food for life	Dog needs food for life

Contrary to Deduction is Induction.

Induction (lat. Induction – introducing) is a method of reasoning in which one proceeds by generalization from a series of specific observations so as to derive general conclusions

Example:

Premise 1	Cat, dog, elephant, tiger, crocodile, rabbit and honey bee are animals.
Premise 2	Cat needs food for life
Premise 3	Elephant needs food for life
Premise 4	Tiger needs food for life
Premise 5	Crocodile needs food for life
Premise 6	Honey bee needs food for life
Premise 7	Dog needs food for life
Premise 8	Rabbit needs food for life
Conclusion	Animals need food for life

During induction, from many specific observations generalized conclusion is made, so we can say that it is positive feed back mechanism.

For illustration I'll present deduction this way:

	Classical Induction	Positive feed back mechanism
Premise 1	Cat, dog, elephant, rabbit, crocodile and honey bee are animals.	Cat, dog, elephant, rabbit, crocodile and honey bee are animals.
Premise 2	Cat needs food for life	There is possibility that animals need food for life (presumption)
Premise 3	Elephant needs food for life	There is possibility that animals need food for life (presumption)
Premise 4	Tiger needs food for life	That presumption is becoming safer and safer because positive feed back mechanism.
Premise 5	Crocodile needs food for life	That presumption is becoming safer and safer because positive feed back mechanism.
Premise 6	Honey bee needs food for life	That presumption is becoming safer and safer because positive feed back mechanism.
Premise 7	Dog needs food for life	That statement is becoming safer and safer because positive feed back mechanism.
Premise 8	Rabbit needs food for life	That statement is becoming safer and safer because positive feed back mechanism.
Conclusion	Animals need food for life	Animals need food for life (assertion)

3.1.2.4. Connection between Induction and Deduction

Neither inductive, neither deductive thinking aren't guarantee for correct conclusion, and each of those processes, just on its own can produce very limited results in thinking process:

1. In case of induction, conclusion is, in fact, 'the most probable solution'. Although results of induction can be easily checked in practice, safety of those logical processes is dubious.
2. Deduction is producing 'only possible solution', but quality of premises is very hard to check. Furthermore, because deduction is based on general statements, there are very few situations where it can produce important revolutionary conclusions. Although deduction is as a process 100% safe, its practical value is very limited, and results are extremely dependent about quality of premises.

If we represent deduction and induction as positive and negative feed back mechanisms, we'll come to conclusion that induction and deduction are completing each other, and only together they allow complete thinking process. Same statement is represented by modern dialectic logic.

It is well known, from medical practice, that whole metabolism is based on principles of positive and negative feed back mechanisms. Although, in elaboration of our society, phrases 'feed back mechanism' is very rarely used, complete interaction of society is based on those mechanism. Therefore, financial motivation of employers is positive feed back mechanism, while punishing the drivers who were driving over the speed limit is negative feed back mechanism.

Intelligence is product of good thinking, or relative to that - good logical system. I would like to stress the Latin root of that word; inter - ***between*** + legere - to ***gather***, ***collect***, ***choose***. Those root is perfect illustration for logical system as it is described – in process of concluding many facts, presumptions, believes, and conclusions are ***gathered*** (***collected***) and then the best ***between*** them are ***chosen*** for final conclusion.

Conclusion: Thinking is progressive self-renewing system, and logic is science about thinking. Thinking as a process, and as a system is based on induction and deduction. Induction in thinking process represents positive feed back mechanism, and deduction negative feed back mechanism. Feed back mechanisms are essence for functioning of Organism, but also for functioning of our Society.

3.1.2.5. Science

Science (lat. Scientia) in broader aspect is representing sum of all knowledge, especially those concluded by strict methodical criteria of thinking (opposite from senses). Through history – because it was not enough developed, but also because human limits - science has been divided on many segments; from Aristotels' division in practical, poetical and theoretical, to modern veterinary, economical, technical and other sciences.

Science uses knowledge to explain the World, so we can say that science is the view into the World. Therefore if we look at the science (World) through a prism of veterinarian or economist, we will not see same perspective as we would if we look through a prism of mathematician. It is all about education of the mathematician that starts from logical proving that zero is zero (0=0). Completely opposite to that, student of veterinary medicine starts education with studying the most complex product of nature; animal organism. Veterinarian is not interested in proving that zero=0 and one=1, although it is evident that all processes in organism are regulated by strict mathematical rules. Unfortunately, at this moment, our species doesn't have neither knowledge, nor system to work out all processes in organism by mathematical methods. It doesn't mean that we will not have them in the near future.

Conclusion: science is one entity. With the development of science, borders between each segment of science are becoming weaker, and weaker. At the same time, interdisciplinary approach is becoming more common and more popular. Therefore, we should not restrain the usage of, for example, veterinary medicine knowledge in economy.

3.1.2.6. Economy

Economy (gr. managing the house) was a term for farm or managing the farm (land property). Progress of humankind has developed economical sciences that are elaborating interaction between people in processing or in production, exchange, division and consuming of material goods. Modern economy is putting in order relationships between people. Therefore Medias for information transfer, and among them Internet which is becoming the most important one, are essential for its functioning. Economical sciences are focused on social aspects of production and exchange of goods, and on the other hand, metallurgy or tourism are focused on production of specific product.

The main goal in this part of discussion is to prove the parallel between organism and society. Therefore to point out that term economy was referred to one farm (family), same as at the beginning life was limited to one cell. Today, economical sciences are associating almost all aspect of life, and in our Society they have the same position, as if we are speaking about organism that would belong to physiology. In a same way as economy doesn't interfere into production technology, physiology doesn't interfere into biochemical processes.

We can make these parallels:

Organism	Society	Function
One cell organism	Primary economy (farm)	Small unite which can exist just for itself
Multi-cellular organism	Modern economy (society)	Big entity that is consisted from mutually very dependent small unites.
Physiology	Economy	Science about production, transfer, dividing, and consuming in society, or inside organism.
Production technology	Biochemistry	Science about structure and productive/chemical processes in society/organism
Nervous system	Internet	System for data exchange which allow coordination of physiological/economical processes.

Economy defines relationships between humans in processes of production, division, exchange and consuming of material goods. Medias, especially Internet, are the base for coordination those processes. Therefore, they are essence of productive economy.

Physiology defines processes of production, division, exchange and consuming inside organism. Nervous system, directly or indirectly – by hormonal system – is the base that coordinates those metabolic processes. Therefore, CNS is an essence for quality constitution of organism.

Mathematically we can define it this way:
Economy/Internet = Physiology/Nervous system or
Economy/Physiology = Internet/Nervous system

Conclusion: Internet is in function to economy and therefore for adequate development of Internet we need economical principles. Enthusiasm is more then welcome. But just for itself, it is not enough for continuous development of Internet.

1.1.2.7. From the other side – traditional Chinese medicine

Chinese medicine is the oldest known health care system still in practice. This medicine is practiced continuously in China for 5000 years on one quarter of the world's population. (Marshall and Walker, 2002). Although there are many different opinions how effective it is, there are no doubts that it is completely defined, coherent, understandable and usable science. Chinese medicine has its own procedures and protocols based on centuries of observation of how the universe works. Its poetic and symbolic language may seem mystical at first, but these metaphors are merely emblems for the basic laws of the nature that all things, from the smallest subatomic particle to the farthest galaxies, must obey.

Basic statements of Chinese medicine, almost completely explain parallels between the organism and the society in a way I'm trying to present it. Therefore I'll describe Chinese medicine in few more sentences.

Basic difference between Chinese and modern (western) medicine is in the contemplation to the world and to the organism; Chinese medicine understands organism as entity undistinguishable from environment. Just the opposite of that, western medicine divides organism on particles or behaviours (reductionism), to understand it better. Chinese medicine is not interested in a bad causal agent (microorganism, carcinoma…). It is interested in reasons for stress and non-balance that are allowing development of bad agents and diseases (what weakness is causing that this person is susceptible to it?). Due to 5000 years long development, Chinese medicine has, in its essence, very different mechanism of making conclusions than does the western medicine (Marshall, 2002):

Western medicine:
Hypothesis/theory → experience (experiment) → the Law (Quantitative)

Chinese medicine:
Natural phenomena (law) → experience (experiment) → the Thesis (Qualitative)

Premises for conclusion, same as consideration of the organism as entity undistinguishable from environment, are the facts that make Chinese medicine quite hard to understand for expert with classical medical/veterinarian education and knowledge.

Fortunately, we can use different approach; these differences complement each other. Furthermore, because Chinese medicine is very useful for curing many diseases which western medicine can cure only symptomatic (analgesics, antipyretics…).

The question is why there is such a big gap between Chinese and Western medicine? One quite courageous, but I'm afraid true, thesis is: In golden time of Chinese medicine, physician was paid according to a number of healthy persons and animals in his district. Absolutely opposite situation is today: modern physician is paid according to a number of ill persons (an expert in cardiology according to the number of people with hart diseases, an expert in oncology according to the number of the carcinoma diseases…)

It is interesting that the patients have also changed their habits due to the adaptation to the modern consumers' society – they don't take care of their own health; they buy it.

Unfortunately, there is no time and space for broader argumentation about Chinese medicine, but I believe that over 5000 years of tradition and results it has, are proving its quality.

3.1.2.7.1. YIN & YANG – what's that?

Undistinguishable and complementary terms Yin and Yang are symbols of the duality that is inserted in the whole nature. That phenomenon was first noticed as day/night change*. Through the day, sun rises and illuminates one side of the hill, at the noon it is on the top of the hill, and at the end of the day it illuminates other side of the hill. From this and many other examples derives the conclusion that differences contradict each other, but in the same time they convert one to another.

What's the connection between the previous statement and the subject of this work?

Answer is very simple: Yin and Yang represent induction and deduction, or, in a medical terminology, they represent the positive and negative feed-back mechanisms. With each other's constant exchanging and complementation, Yin and Yang are making possible to keep homeostasis and progress.

Schema of Yin & Yang exchanges

Few thousands years ago, Chinese scientists concluded that there had been existing a clear parallels, between the organism and the universe, and between the organism and the society. Even more, they concluded that everything is happening according to the universal laws – in a molecule or in a galaxy, and the essences of everything are Yin and Yang – or in modern words: positive and negative feed-back mechanism.

*There can be some confusion due to the second sentence – when Yin and Yang are compared with day/night change.
We are talking about constant circular moving of the earth around the sun.
Circular movement has nothing to do with positive and negative feed-back mechanism?!?
Just the opposite: circular motion, and that's the essence of the universe, from atom to the galaxy, is based on induction and deduction. To be more specific, circular motion is combination of velocity (change in displacement with respect to time) and change of direction caused by centripetal power (gravity, attraction between atom nucleus and electrons, or simply the force of the rope toward the mass that is rotating on its end).
We can define constant velocity with induction (positive feed back); if one body is at the point of the same straight line with constant movement in same direction, we can presume that it will continue to move in the same direction at the same straight line forever. With the induction we have concluded one general statement. Now we have to ad another premise: if, from one defined point, centripetal force [$F_{cp}=ma_{cp}= (mv^2)/r = (4\pi^2mr)/T^2$] affects that body which is moving with constant velocity, the conclusion will be circular moving.

From Molecule to the Universe

3.1.2.8. From the other aspect – the coach

What makes the quality of a good sportsman? People like to mention genetic predispositions even though genes are less important factor. To believe this just check the statistics about abilities of the adopted children: it is significant that, both physical and intellectual abilities, are much more conditioned by the adopted parents than by the biological parents. So, to become a good sportsman it is much more important to be well trained, to have acceptable accommodation and to be well motivated.

Training is exposing our body system to high efforts. That's the stimulating interaction between positive and negative feed back mechanisms, and, as a result, we'll have a better constitute organism. Training is pointing the facts of a progressive self-renewing system: improved results (progression) and improved working possibilities in spite of the exhaustive training (self-renewing). If genetically very different individuals are conditioned by high quality trainings, their organisms will visually (anatomically) and functionally (physiologically), become similar. As opposite to that, if genetically similar or identical beings (twins) grow up in different environments it is possible to get really big morphological and physiological differences: from anorexia to extreme obesity (adipositas universalis chronica)

Conclusion: Our organism is self-renewing progressive system. Therefore training, working and thinking are actuating feed back mechanisms in this system. Intensive interaction of feed-back mechanisms is essential for a quality structured system. So, training, working and thinking condition better structure of system. Opposite of that, inactivity is predisposition for many alterations; both morphological as physiological.

Same rules work for us. Best prove is history*: all big civilizations have been destroyed by themselves after they lost real enemy, meaning after they lost strong motivation for 'training, working and thinking'. As a result many alterations happened; first physiological, and then morphological (for example: The end of Roman Empire).

Caesar was murdered outside Pompey's Theater on March 15, 44 B.C. (Ides of March)

*Of the sixteen major civilizations which have existed in all of human history, ten are already dead, their cultures destroyed by their own defects. As Walter Lippmann reminded us: "A regime, an established order, is rarely overthrown by a revolutionary movement; usually a regime collapses of its own weakness and corruption and then a revolutionary movement enters among the ruins and takes over the powers that have become vacant.".

3.1.2.9. View from the other side – the Informatics' Experts

> The Federal Networking Council (www.FNC.gov) agrees that the following language reflects our definition of the term "Internet". "Internet" refers to the global information system that –
> (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons;
> (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and
> (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.
>
> [On October 24, 1995 FNC Resolution]

For better understanding of parallels between Internet and Central Nervous System, I will try to define the internet by informatics terminology. For that I'll use definition (Resolution) which the Federal Networking Council (www.FNC.gov) has made on October 24, 1995 in order to define the Internet.

According to that resolution "Internet" refers to the global information system which:

> (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons;
>
> (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and
>
> (iii) provides, uses or makes accessible, either public or private, high level of services layered on the communications and related infrastructure described herein.

If we ask those information's expert to define CNS, these definition would probably look like this:

"Central Nervous System" refers to the information system on the level of the whole organism, which:

> (i) is logically linked together by a unique organization of nervous cells which is based on transfer of electrical impulses from cell to cell or by its subsequent extensions/follow-ones (synapses – neurotransmitters);
>
> (ii) is able to support communication between the cells tissues and organs, using the Transmission of impulses by nerve cells or its subsequent extensions/follow-ons (synapses), and/or other CNS-compatible systems like hormonal system; and
>
> (iii) provides, uses or makes accessible, either at the level of organism or at the level of single cell, high level services layered on the communications between cells and other (hormonal) related infrastructure that are participating in the communication between the cells.

3.1.2.10. Conclusion of a theoretical contemplation about Internet

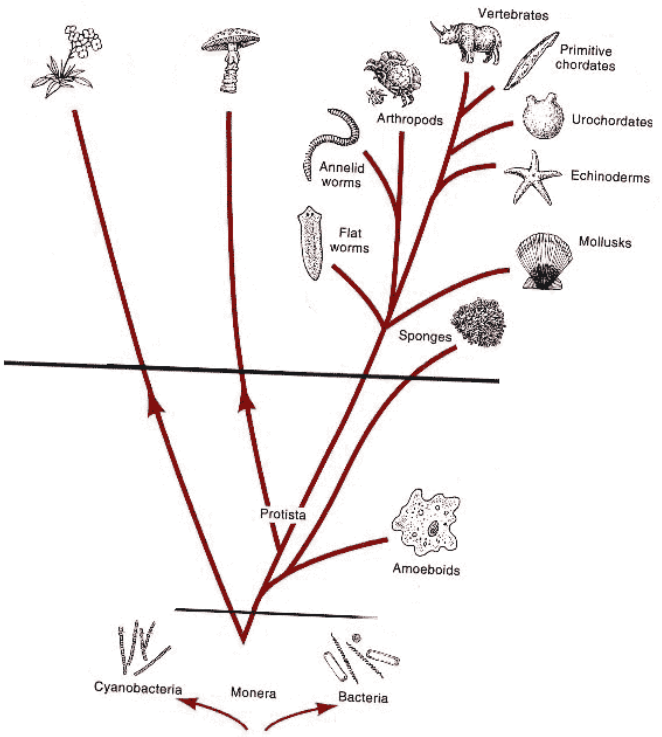
Human society, logic and living organisms are self-renewing progressive systems. Essences of these organisms are positive and negative feed back mechanisms. Self-renewing and progressive nature of those systems cause changes of bad components with better ones. That is reason why each system has analog components, and those components through development (evolution) are becoming structurally more and more similar. It is important to point out that this is process of continuous development. Therefore, we can compare only systems which are at the same level of development.

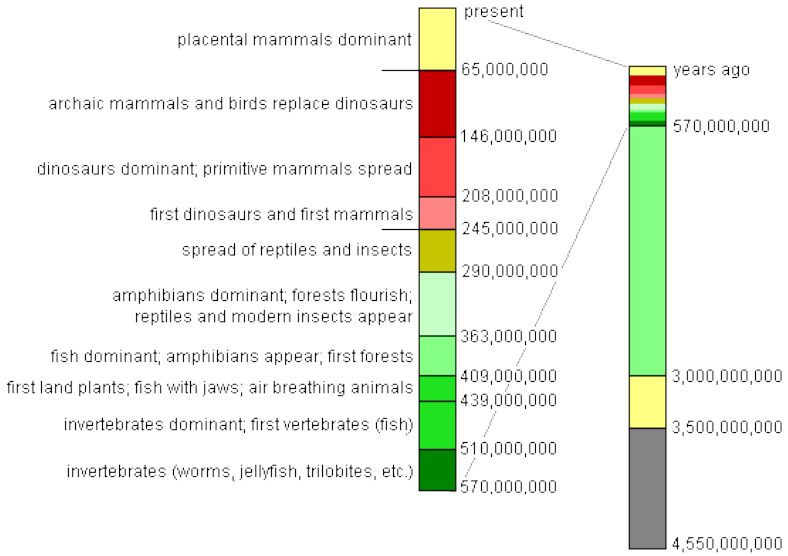
Parallels between the systems of animal organism and of our society are presented in this table:

Development of living beings	Development of society
One cell life	Social stadium of, for example, some fish: absolute separate living except in the moments of a fertilization.
First multi-cellular organism	Herd (pack)
Differentiation of tissues	Clan system
Development of first organs	Slave-holding system
Well organized organs, clear differentiation of tissues	Industrialization
Nervous system exists but isn't developed (ganglion system) and hormonal system is well done.	Few educational and scientific centers, but they are not well connected. Masmedia (hormonal system) is well done.
Fighting's between individuals caused big progress of CNS – only the fittest survived.	History has been changed on October 4, 1957 - Sputnik was launched – and global communications started. It marked the start of the information/space age and the US -USSR information/space race. As answer USA has established Advanced Research Projects Agency, which had made, as a part of Ministry of defense, many predispositions for development of Internet.
Progress of hormonal and neural system	Stronger communications between centers (telephone, fax, video). Newspapers, radio, TV are becoming more and more important.
Development of CENTRAL nervous system	Development of Internet
Specific parts of CNS are making faster or slower progress, and due to that individuals are physically and psychologically different.	Specific groups of people in Society are making faster or slower IT progress and that fact greatly influence their ability to make fast and productive interaction between each other and with the whole society.

Due to the fact that our society today is divided on many countries in which numerous details are managed differently, it is suitable to compare our society with segmented worms (Annelida). Although worms are a quite primitive form of life, if we contemplate the whole evolution, segmented worms were developed in last 6% of evolution.

Therefore comparing with segmented worms is comparing with a quite developed system.





It is good to point out that every further evolution is much faster then the last one; biological evolution has started more then 4.5 billions years ago, and sociological evolution has almost reached her – although it lasts ~ 100.000 years. That is 0.0002% of biological evolution ➔Social evolution is 45.000 times faster.

3.2. Internet; the practical meaning

3.2.1. Development of Internet

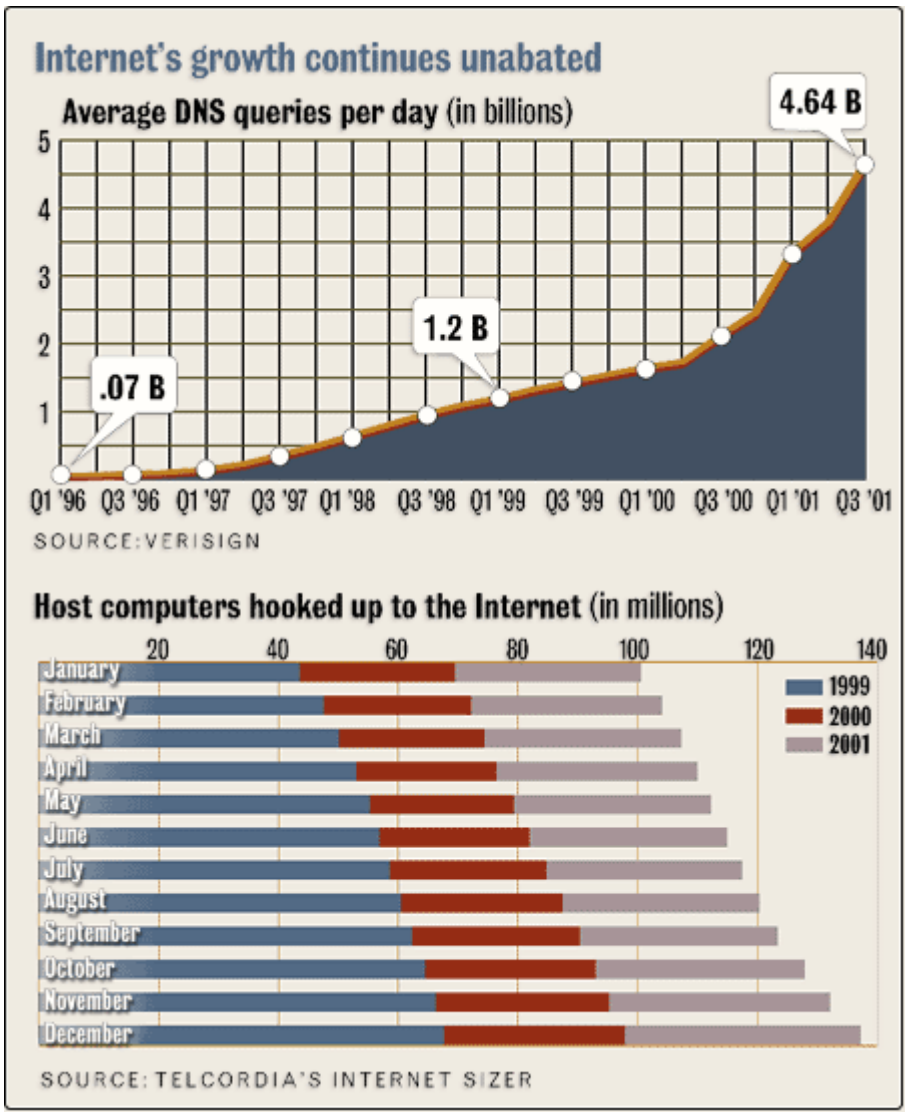
Internet* was born the same day as the first Netscape browser. From that day on, one of the most important characteristic of Internet is constant progress and penetration in our society.

> *Although transfer of information by the Net is much older then 1994, as late as Netscape was done it has become usable for average people. Until that time information transfer was based on different not easy to use protocols (for example File Transfer Protocol; FTP). Netscape, same as browser that are following, is using HyperText Markup Language (.HTML). Those language made big progress due links – ability to connect more different documents.

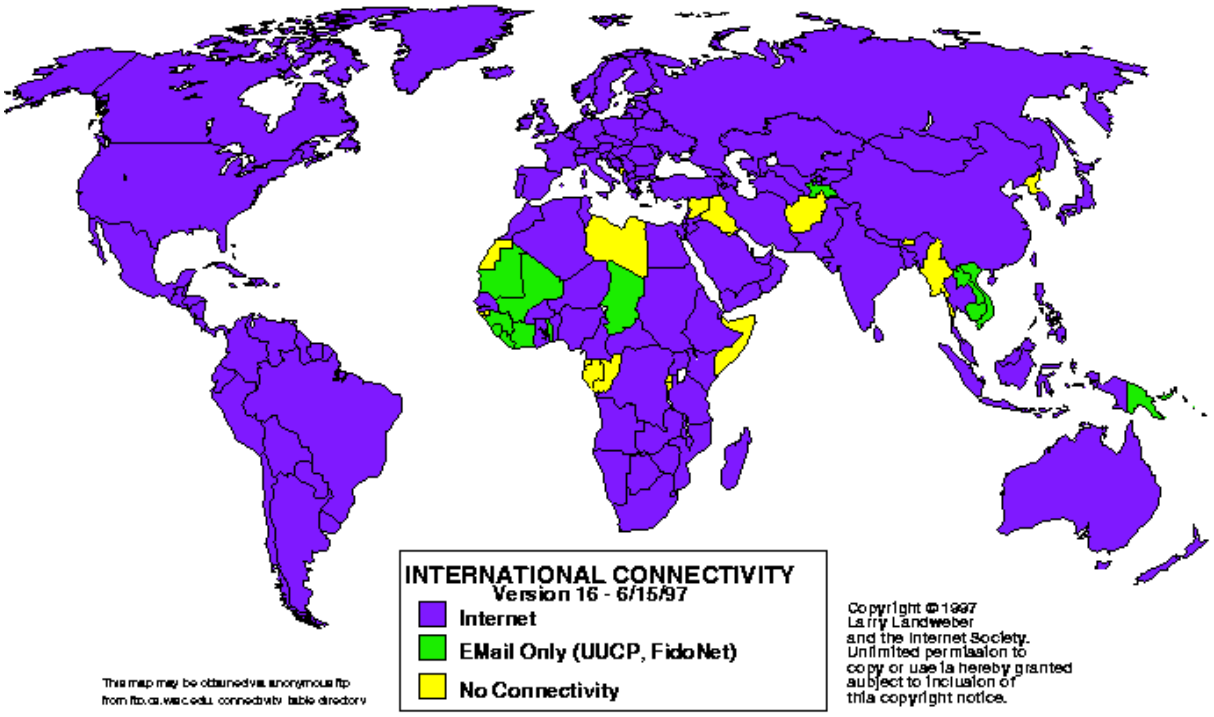
Over 98 million of people have ability to use Internet in USA, and average American is using Internet one time a day, and each month he surfs over 3 hours. Croatia is following those trends, so we can expect that in the next few years over 50% of Croatians will use Internet. Therefore, it is not important how fast Internet will develop, but how will we adapt ourselves to this new situation, and how we will use the full potential of the Internet.

Next table is presenting increase in Domain Name Server* queries in last 5 years.

> * Domain Name Server query represent one income in one Internet domain (site). For example when we input address www.google.com in browsers address bar, we send a query for server which has that name (www.DomainName.com).



Next map is presenting Internet penetration in the different region during the year 1997. That was the time when Internet penetration on Earth was less then 100%



Anyway, without any doubts, Internet is not just transitory fashion, as Bill Gates estimated 10 years ago. Internet is the integral part of our society, tissue which is more and more growing and penetrating into body of our society, and at the same time, is becoming more and more essential for functioning of our society.

3.2.2. Role of the Internet in our Society

Conclusion of theoretical discussion is that Internet and Nervous System are analog to systems (organs) inside of our Society (living organism). Now we have to answer why we have such big differences in practice?

When we elaborate Nervous System, most often we think on Human Central Nervous System. That is a mistake because we should remember that Man and his evolutionary ancestors have CNS for hundreds millions of years and the Internet as a real system is existing not more then 9 years. That is not all; we are usually quite automatically referring to CNS (and just CNS), but at the same time we are forgetting periphery nervous system and the fact that there is no clear border between those 2 systems. From those facts we can conclude that we should compare modern society with simple being – whose nervous system is hardly penetrating through all tissues, which doesn't have CNS, neither defined organs for communication with environment.

The Economy and Internet. Very often discussions about Internet are stressing extreme amounts of money that can be made by the Internet. Now I would like to stress another theoretical conclusion: economy in our society is analog to physiology in our organism. It is well known from medical theory that main function of nervous system is physiology and communication with environment (that is indirectly connected with physiological needs). Nerves directly, or indirectly – by hormones- are managing physiological processes, but they are not directly involved in specific biological processes in cells. Therefore, conclusion from those is: Internet is in function of economy, and only through economy Internet has defined interaction with specific profession.

It is easy to notice this fact from the practical work; each profession use Internet for the presentation and for selling products/knowledge/services to the public. Of course, main goal is an economical profit. One part of Internet sites are about professional matter (text for professionals), but approach is very 'economical'; either we have to pay to have access to those pages, or sponsor is paying and using those pages for promotion of specific products or companies.

Some doubts in economical nature of Internet can be caused by statements about non-profit professions like, for example, those involved in education. Non-profitable education is term quite often used in definition of circumstances in which one authors work can bi quoted. It is presumed that the person, who quotes, doesn't get any material profit by doing that. But, educator who is using 'non-profit education' is paid for his job, so he is doing profitable job.

Profit (lat. profectus, us, m. - progress, success; from pro – to, for, + fectus, a, um - reach, fertile) is denoting benefit, progress and usefulness. Therefore direct translation of term non-profitable profession would be useless or regressive professions. One of the most important premises for that logical mistake is general opinion that education is for free (nobody has to pay for it) in Croatia. That, of course, is not truth, because great amount of educational costs is paid by Croatian government, and therefore indirectly by Croatian citizens (tax income). Another important premise is that education is not product. That is also incorrect. For example, on working power market, one worker with no tools for work (he doesn't have a product) has the same value as a worker with no skills to use such tools (also doesn't have a product – knowledge/skills). They are both useless.

3.2.3. Language on Internet

Main language on Internet is English, but we can't blame an Internet for that. Progress in usage of English language on global level has started more than one hundred years before Internet was born. Moreover, by Internet we can see billions of pages on English language, so it looks like Internet is killing all other languages. Fortunately, practice is completely different; for Internet site production is essential to cover intellectual work costs, but costs for publishing are minor. Therefore, today, with the help of the Internet, small languages are in the same position as English. If you still think there are too few Croatian pages on Internet, well, it is not up to Internet, it is up to us.

3.2.4. Educational tourism – chance to become regional power

Information accessibility. Informatics' revolution has put us in a situation not to ask if we can have specific information/service, but to ask how can we get that information, and relative to that, how much we have to pay for it. We can use a big amount of information and that fact is giving us possibility to chose. Do we want free information or we are willing to pay for certified quality. And as, formerly, each kind of food, no matter about quality, was precious for humans, each usable information was tended. Modern time is characterized by abundance of information and food, so we have to choose between:

1. Cheep homemade food/information, and
2. Cheep instant (fast) food/information, or
3. To invest to consume high quality food/information in a specialized institution with an appropriate company and with a whole list of accessory components to the service.

High work quality standards that are becoming imperative, same as a conscience about a worth of quality prepared information/education, are suggesting to choose 3rd option. And experts are willing to pay quite a big money for that service. Of course, if quality is high enough. That is one of the most important prepositions for development of educational tourism. At the moment it is well developed in USA and EU. Opposite of that, in Croatia and region, partly because of the war, partly because of lingual barriers and low economical standard (low investment in education), educational tourism is in the early beginning.

Educational tourism is covering 3 segments:

1. Allows life-time education – it is becoming essence of the professional work,
2. Allows social and professional interaction between expert in each profession,
3. And finally it allows relaxation, and enjoying in cultural, historical and other beauties of region.

Educational tourism will cause annual gathering of the most important world (regional) experts, and that is very valuable for the host-country.

I believe that for a development of educational tourism in Croatia, especially a veterinary educational tourism, we have to use full potential of a fact that we live surrounded by common

languages, and English language has not fully penetrated in profession. Due to the language, distances, and prices, we have quite a big advantage in front of Western Europe. We have the market, and we just have to use the situation.

Competition. Example of educational tourism is Business school on Bled in Slovenia. Due to the big interest, there were many proposals/suggestions to form such an institution in Croatia. At the moment, investment in such institution in Croatia is not economically approved, especially because Business school on Bled is covering all the needs we have. Number of veterinarians in our society is much lower than the number of economists, and therefore there is no need for more than one educational-tourist centre in the region. So, if we become the first, we probably won't have a real competition.

3.2.4. Conclusion from elaboration about practical characteristics of Internet

Internet is a new system inside our society, the system which is growing very fast and is becoming more and more important. Function of Internet is mainly economical, and only through economy Internet has approach to specific professions. Development of professional Internet should be based on the economical principles and it is favourable for this development to interact with other aspects of trade with professional services and products. Internet is allowing development of all languages equally.

3.3. Copyright Protection Vs Academic Community in a Digital environment

> Protection of all moral and material rights based on scientific, cultural, artistic, intellectual and other form of work is guaranteed.
>
> [Constitution of Croatian Republic]

> To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.
>
> [USA constitution]

Conflict of interests in information management is the most extreme in Academic community. From one side, Academic community's goal is to make all information accessible to public due to development of society. From the other side are rules of modern consuming society in which information is product with price, and relative to that there are copyrights. It is important to stress that members of Academic community are in the same time members of our society, and therefore there is a conflict of interests in each member of Academic community.

Copyright practice has been greatly changed due the adaptation to the Time of information. Fortunately, in major number of cases these changes are only of technical nature; preventing illegal copying and distribution of materials. There are no reasons for panic, because parallel with increasing possibilities for illegal actions, there is a great increase of possibilities for easier and cheaper publishing and of mechanism for intellectual work protection which are greatly improved. The Number of published works is greatly increased. 'Up to date' time is much shorter then it was 20 years ago. In such an environment, thieves need to work much more and they have to react much faster if they want to be 'up to date thieves'. At the end, the same electronic methods which thieves are using to steal intellectual property can be used for catching them. Therefore we have to know much more about the media in which conflict takes place.

3.3.1. Principles for Emerging Systems of Scholarly Publishing

> The best way to predict the future is to invent it.

Internet was primary invented as a tool to increase exchange of ideas inside the Academic community, but it's economic side started to dominate at the early beginning of the Internet. Therefore, today term Internet is mostly connected with fun and commercial matters. Of course, this doesn't mean that Internet isn't of great value for Academic community. Completely opposite; Internet is the biggest value that academic community has. Unfortunately, there are still many examples when experts don't accept reference from Internet. This is quite a big problem in non-developed part of the world. Full potential of Internet pages is still unknown for majority of population, and unfortunately for the great part of experts too.

Due to fact that publishing of expert's works on the Internet is a quite new activity on which we have to adapt our system, Association of American Universities and the Association of Research Libraries concluded Principles for Emerging Systems of Scholarly Publishing (principles scholarly publishing process should obey) on March 2-4, 2000.

Few of the most important principles are:

1. Electronic capabilities should be used to: provide wide access to scholarships, encourage interdisciplinary researches, and enhance interoperability and research. Development of common standards will be particularly important in the electronic environment.
2. Academy's cost for publishing the research results should be contained. In that way access to relevant research publications for faculty and students can be maintained and even expanded. Members of the university community should collaborate to develop strategies for solving this problem. Faculty participation is essential for the success of this process.
3. Scholarly publications must be archived in a secure manner to remain permanently available and, in the case of electronic works, to remain as a permanent identifier for citation and links.

4. The system of scholarly publication must continue to include processes for evaluation of the quality of scholarly work. Every publication should provide the reader with the information about the evaluations which the work has undergone.
5. The academic community embraces the concepts of copyright and fair use and seeks for a balance in the interest of owners and users in the digital environment. Universities, colleges, and especially their faculties should manage copyright and their limitations and exceptions in a manner which assures to the faculty access and use of their own published works in research and teaching.

Essential criteria for 'Fair Academic Use' of copyrighted works (University of Tampere, 2002):

1. The research of paper must be legitimate academic work.
2. Used material must be directly relevant to the topic.
3. The source and possible copyright must be quoted
4. The paper must be for non-profit educational purposes
5. The amount of used copyrighted material must not be excessive, and must not affect the market value of the original.

New problems. In a year 2000, when 'Principles for Emerging Systems of Scholarly Publishing' have been concluded, two new problems were born due to the new technologies. Today those problems are much more common and in the future we'll meet them even more often.

1. First problem is based at the fact that the increasing number of sites was done by Active Server Page or Hypertext Processor (ASP or PHP) techniques. Those are program languages which are forming pages on the server according to the instructions which are installed by the webmaster, according to the contest entered by the author of the contest, to the environmental conditions in the site or in the Internet, and finally according to the question (link) visitor asked. Due to usage of those languages, performances of sites are greatly increased, but, from the other side, there is big possibility that the page we were reading one week ago doesn't exist any more.
2. Another problem is based at the fact that commercial sites with contest valuable for quoting will not be accessible to unauthorized persons.

The best solution to explain these problems is to compare today's situation with the time before Internet. Therefore pages in PHP or ASP technique are comparable with discussions or lessons; we have to write down all the important data or, with the modern terminology, save it on our hard disc. In a case of commercial sites with the contest for professionals, analogy is also understandable; we have to poses/rent book as same as we have to posses/rent license to use these pages.

4. Conclusion

4.1. Plan for development of a Veterinary Internet

For better Veterinary Internet elaboration, we have to distinguish two elementary aspects. These are:

1. Existence of the pages for presentation and promotion of the veterinary profession and veterinary service to the public, and also cooperation with the public (customers).
2. Existence of the pages with quality contest for professionals – veterinarians.

4.1.1. Pages for presentation and promotion of a veterinary profession and veterinary service to the public, and cooperation with the public (customers)

Although at the beginning Internet development was based on volunteer work, situation is greatly different at the moment; Internet is not news, but a very understandable and very powerful media that seeks professional work for adequate progress. Therefore is real this statement: Development of Internet, same as development of every other subdivision of the Internet has to be based on economical rules.

Sites for presentation and promotion of the veterinary service are becoming imperative for a good management. Moreover, these pages are primary designed for local customers; for example: the target-customers for the Veterinary station in Osijek are the population from that region – the potential customers. Therefore the most important thing for the development of these pages is a free market (market competition – Invisible Hand mentioned by Adam Smith).

For building such a site we should cover these aspects:

1. Who: description of the institution, the staff...
2. What: define services and prices. It is not important to publish all prices, but it is very desirable to inform the customers about the prices of the most important services (vaccination…),
3. Position: clearly defined position of the institution – customer will more likely chose a longer trip to known destination than the shorter trip to none well defined position.
4. Contact possibilities and interactions (questions…).
5. Contest attractive to visitors: from the instructions which should veterinarian, as an expert, present to public, to the contest attractive to pet owners, but with no professional value – pages about specific dog and so on.
6. Ergonomic – site should be easy to use.
7. Design – recognizable, easy to remember site.

Imperatives made by market competition are the base good enough to develop very quality sites. Therefore, I'll focus on segment of Croatian Veterinary Internet where there is no (economical) imperative. It is missing simply because that segment doesn't really exist.

Pages with contest for professionals – veterinarians on Croatian language don't exist. The importance of such sites is stressed by the fact that there are many sites in the world that are allowing an access to enormous number of professional pages for annually fee. Possibilities that mobile Internet has are more and more pointing to the practical importance of such contest. Therefore we have 3 possibilities:

1. To start intensive production of professional pages on Croatian language in cooperation with other nations which are familiar with Croatian language, and in cooperation with big international companies that are offering such services.
2. To wait to colleges from Bosnia and Herzegovina or Serbia to start such project, and then help them do it.
3. To focus on usage of pages made by professional companies from USA and UK (English speaking countries).

Second and 3rd possibilities are not demanding any actions, except usage of English language, which is very recognizable trend, so I'll focus on the first possibility.

4.1.2. Editing the expert Veterinary pages on Croatian language

As it is already mentioned, production of all Internet sites should bi economically warranted. Therefore I'll mention few facts:

1. Pages on Croatian language can be used by more than 30 million people
2. The expert articles for such a site will be written by experts, but for no fee, or for the very low fee. That will be their support for the profession and/or their own promotion.
3. Part, or even majority of contest can be, in corporation with a big international site, translated,
4. It is possible to exchange contest with other sites,
5. Articles made by experts from neighbouring countries, with no need for translation, same as articles made by experts from all over the world, with adequate translation, can be used in building site database,
6. Income for site production can come from sponsors.
7. Annual charges for such sites vary from 25 to 1000 US$. If we presume that such site can have more than few thousands subscribers, then it is easy to see how big can be the income from subscriptions.
8. Sites with similar subjects are in progress. For example are sites of Medical Faculty in Zagreb (www.mef.hr) or Market Information System – Agriculture (www.tisup.mps.hr). On international level one of the best and the biggest veterinarian Internet database is Vetstream (www.vetstream.com).
9. Each group of people should be presented on the Internet; for better production/interaction of that group, but also for better interaction with experts from the other professions and the whole society (customers!).

Economical cost for site production are just few hundreds € for Internet Service Provider costs. Everything else is intellectual work to product contest and web editing. Therefore we need veterinary institution with authority to gather experts, to invest in a short Internet education of the few veterinarian experts and to start producing such a site. One of the most important goals for Croatian Veterinary Internet should be protection of the Croatian language. Therefore I believe that these institutions should be own by the government. From the other aspect, it is clear that companies in a government's property are much less proactive than private. The private companies will, as Adam Smith said, during their race to make money, do much more for the society, then the companies whose main task is to work for the public interest.

Private or public companies? Market is seeking for such a product, investment is not very big, and success is guaranteed.

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6. Summary

Internet is a system for an information-exchange. It allows us to, very fast and almost unlimited, exchange data. All other systems of our society have to adapt themselves to the Internet; otherwise they will be exposed as a rogue player in the global economy. Internet, just for itself, has brought no new things except huge increase in speed, quantity and quality of data transfer. All other 'new things' familiar with Internet existed before, but with informatisation, they have appeared in a new form (copyright, crime, paedophilia, videogames, education…) as a result of an interaction between Internet and society. We have to look at our system from macroscopic point of view to see the cause of these differences.

Animal and human organisms, like our society, belong to progressive auto-renewing system. Core of such systems are mechanisms of induction and deduction, or according to medical terminology positive and negative feed back reactions. Five thousands year old Chinese medicine uses expression Yang and Ying for those notions. Because of the same essence (core) systems of our society and organism are structurally almost identical. Confusion can be caused because those systems, although they have the same structure, are made from totally different units. Another confusing fact is that both systems are in constant develop (evolution), so it is very important to define which evolutionary stadium we want to compare. Internet – which is analog to nervous system has started 9 years ago, so we have to compare our society to the organism in which nervous system has just started its development.

Like in our organisms, where nervous system is in function to regulate physiological functions (researched by physiology), in our society Internet is in function to regulate economic activities. Conclusion is: Internet is in function to economy, and only through economy Internet has clear connection with specific professions.

Internet allows developing for everybody; from national language, economical progress, and profession to educational tourism. Of course, development is an active process, so it takes some risks and lots of work.

Veterinary profession is presented on the Internet with sites done to cooperate with public, mostly to present veterinary service or to cooperate with the owners of patients, and with sites for educating the professionals – veterinarians. In both cases economical benefit is very clear. Unfortunately, in Croatia and in countries in our region production of professional web pages for veterinarians does not exist, at least not on notable, economically profitable number. We need institution with an authority that will manage experts to fulfil that hole.

7. Curriculum vitae

Objective

I was born on 10th of June 1976 in Zagreb, where I have been educated. I have been involved in sports; especially rowing – in which I have won a 4 state championships. I am a communicative person, used to teamwork, and I am a quick learner. I have graduated veterinary medicine on Veterinary faculty in Zagreb (**DVM**). I am also professional **Web designer** (diploma is verified by Ministry of education and sport). I regulated my army obligations.

Experience

IVSA. Since I enrolled Faculty of veterinary medicine in Zagreb I was active in work of International Veterinary Students Association.

Work in Faculty senate. I was representing students in Faculty senate during years 1996/7 and 1997/8.

President of IVSA-Croatia. During years 97/8. 98/9 and 99/2000 I was president of IVSA-Croatia. During that period IVSA-Croatia was getting very strong support: financially (over 73 sponsors and many more sponsorship incomes) as well as morally; support letters from many ministers (foreign minister Tonino Picula, minister of science and technology prof. Kraljević, Ministry of economy, Ministry of agronomy and forest, Ministry of Tourism), rector of University in Zagreb, dean of Veterinary faculty, Croatian National Tourist Board, Zagreb Tourist Board and Convention Bureau, and president of Republic Croatia, mister Stijepan Mesić.

Organizing of Group Exchanges. I was chief organizer of Students Group Exchange between universities: Zagreb – Alfort (Paris1998), Zagreb – Vienna (1999), Zagreb – Istanbul (2001.), and I was participating in Group Exchanges with Slovenia (1995), Budapest (1996.) Ireland (1997.) and Great Britain (2000.).

Organizing of the IVSA Sea Week-a. I initiated and was chief organizer of the first IVSA Sea Week in Croatia (1999). The purpose of that project was to promote IVSA-Croatia and our Faculty, but it was also preparing for organizing of the IVSA congress in Croatia. Two years after (2001) I was chief organizer of the 3rd IVSA Sea Week.

Candidature for IVSA congress. I initiated (2000.) and I organized candidature of our country for the organization of IVSA congress in Croatia.

I was participating in congresses and symposia:

IVSA congresses; Paris (1998), Raleigh (North Carolina, USA, 1998), Vienna (1999.), Guadalajara (Mexico, 2000.), and as a member of Organizing Comity I was involved in organizing of the IVSA congress in Croatia 2002.

IVSA symposia; Croatia (1995/6 – as a member of Organizing Comity), Stara Zagora (Bugarska 1998.), Warsaw (Poland 2002.).

I wrote different articles (more then 10) about work of the IVSA, and about practical use of the Internet in veterinary profession. Those articles were publicized in 'Hrvatski veterinarski vjesnik', student magazine 'Anamneza' and in 'Večernjem listu' (edition for foreign countries).

WWW.IVSA.HR. I did the first Web pages for IVSA-Croatia. got the Internet domain name 'www.ivsa.hr'. With that IVSA-Croatia has become the first local IVSA in the world with own domain.

IVSA ITO. I was IVSA Information Technology Officer 2003/4.

Rowing team of Veterinary Faculty. I initiated ('98.) and for 3 years have been organizer and coach of the male and the female rowing team of the Veterinary faculty.

Sailing Team – 1999. I was project manager of Veterinary faculty sailing team (Student Union) on EPSA- Sailing Cup (European Pharmacy Students Association). On that race Veterinary sailing team came second – just after Italian team – and was best Croatian team.

Web design. I did the first students Web pages on Veterinary faculty site, and after that I did Web scripts from Radiobiology and Animal hygiene and publish them on www.hlede.net. I am webmaster of following sites: www.parazitologija.vef.hr (Department of parasitology and

parasitic diseases), www.diavet.hr (veterinary ambulance and pharmacy), www.boschhrana.hr (Bosch pet food), www.ivsa.hr, www.ivsa.org/journal (I made IVSA Journal in HTML version), www.bungee.com.hr, and finally www.hvd.hr (site of Croatian Veterinary Association).

I did Web handbook for usage of the Flash MX – program for the Web animation. The work was finished in June 2002 – at that time Flash MX was totally new program and there were no literature about Flash MX in Croatia. Handbook is placed on the site informatics school Pro Anima (www.proanima.hr).

Professional work. As a member of a group of volunteers I worked with prof. dr. sc. Marinculić on a project called "Vaccination of sheep against scabies".

I was employed by few honorary jobs, from whose I wish to emphasize Web design and work at the Bungee jumping site at the Šibenik Bridge (www.bungee.com.hr).

Education

High school (mathematical kind of school - V. gimnazija) - 1990.–1994.

I competed in city competition in the fields of physics and mathematic.

Veterinary faculty, University of Zagreb; I have just 2 exams until graduation in the field of veterinary medicine at Veterinary faculty in Zagreb.

Web design. I am involved in Web design since 1998 and have graduate Web design course at 2002 (diploma is verified by Ministry of education and sport). I am familiar with elementary things of PHP and I am attending curses about that matter (PHP and ASP.Net developer).

Additional knowledge and skills

Foreign languages: I use English fluently in written and spoken form. I have been well educated in English language during my education in primary and secondary school as well as at the University. I have been intensively using scientific literature in English language; most of exams I have prepared using foreign literature. Constant work in the International Veterinary Students Association was very important for my fluency in English. As a result of many meetings with college from our region I can very well understand Slovenian, Macedonian and Bulgarian language.

Computers: I use all of the MS-Office programs (Word, Excel, PowerPoint, Access, Outlook, Publisher, FrontPage) and Internet (Internet Explorer, Outlook Express, ICQ). I have a lot of practical experience in Adobe Photoshop. As a Web designer I am very familiar with Macromedia programs; especially with Dreamweaver and Flash. Also, I can use JavaScript.

I can type with 10 fingers

I have a **driving license** since 1994.

Hobby and interests

Sport. For over than 10 years I was intensively involved in rowing (I won 4 state championships). Today I keep my condition mostly by jogging, cycling, tracking and skiing.

Traveling. I have big interests in traveling: with Inter-Rail and Euro-Domino tickets I have travel thru all European countries except countries of Benelux and Scandinavia. After IVSA congress in USA (North Carolina 1998) I was traveling all across USA. With America Rail Pass (Inter-Rail ticket for USA) I went all over east and bigger part of west coast of USA. At that time I did article for magazine Gloria about my cousin Korie Hlede – one of the best Women NBA player. Two years after I did big tour of Mexico (United States of Mexico).

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