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# TOWARDS A PEOPLE'S ALTERNATIVE TO "INTELLECTUAL PROPERTY RIGHTS"

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## **TOWARDS A PEOPLE'S INFORMATION ALTERNATIVE**

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## **INTRODUCTION**

By this time you've surely met the term "intellectual property rights," or IPR. In brief, IPR means that products of intellect like inventions and literary and art works can have private owners, and you cannot just copy them. You have to pay for your copy or right to copy, based on the permission of the creator or owner of the intellectual work.

Underlying the idea of IPR, however, is a more basic concept: information as a common social resource. In history, public access to information was often limited by considerations of state security, privacy rights, religious taboo, and the direct costs of making a copy. Still, the general trend was towards broader and freer access. But today, IPR and information as a public resource have become so contradictory notions that we seem to be talking about entirely different entities.

Information is now considered a valuable commodity, on equal footing with labor, raw material, land, capital, and finished goods. It has become an exact legal category, subject to laws and litigation. With frightening speed, companies stake out IPR claims and shut out free public access to an expanding range of information resources. IPR regimes encroach on new grounds that were virtually unknown or untouchable a generation ago. The WTO, regional economic organizations, and national states regularly engage in quarrels over IPR issues.

Ordinary working people are starting to feel the impact – from farmers and indigenous communities who see their bio-genetic resources stealthily transformed into foreign-patented seeds and drugs, to students and professionals who can no longer legally acquire photocopies or cheap local reprints of expensive textbooks and trade books. Still, defenders of the new IPR regime insist that Filipino intellectuals can play the game and win, while some theorists talk with awe and anticipation about the advent of "information society."

There is therefore an urgent need for us social activists and issue advocates in the various fields of information (primarily science, culture, mass media and education) to check our theoretical bearings. The roles of information are so axiomatic and so omnipresent today in the worlds of science, government, business, and media, that many basic assumptions of theory are easily taken for granted. We must review these roles and assumptions. We need to reassert public information rights based on a

clear-cut philosophical vision and solid theoretical arguments. By doing so, we can help fortify a truly progressive, popular and patriotic alternative to IPR.

## **SOME BASIC ATTRIBUTES OF INFORMATION**

### **What is information?**

Fundamentally speaking, information is an organism's internal and external representation of the reality that envelops it.

Let us quickly run through the several elements in this very simplified definition:

- First, there is the *organism* – a biological or living system, which can be an individual bacterium or the whole of human society, and geared for its primal objectives of survival and reproduction.
- Second, the *organism's reality* – its external environment (including other organisms) and its own internal condition – with which the organism must interact to attain its primal objectives.
- And third, the *organism's system for representing its reality* as an internal record – its mechanisms for reflecting its outside world into meaningful internal patterns, which then trigger its appropriate responses or adaptations. A complex organism is also able to make those internal reflections external and accessible to others of its kind – i.e., to communicate as a group.

Some information theorists have given up the attempt to arrive at a unified definition of information, composed as it is of a mind-boggling galaxy of phenomena.

Others, such as engineers steeped in the math of communication theory, find it axiomatic to define information as an abstract formula, whose closest translation in layman's terms is, "Information is anything that can be represented and stored as a digital series of bits," i.e., by 0's and 1's. But this definition can be interpreted to mean that information is limited only to data that can be digitized – which is too narrow and techno-centric. Or, it can absurdly imply that the entire observable universe is really made up of information because, in theory, anything above quantum-particle thresholds can be digitized, given the right tools and enough time. The "digital definition" is best applied to the technical sciences of handling encoded information. For purposes of studying information as a social process and resource, however, it is clearly insufficient.

Admittedly, our own simplified "organic definition" cannot fully capture the countless modes of information's existence either. But we believe that it basically covers the main range of information phenomena as they emerge in the actual development of life and of humanity – from biochemical phenomena at the cellular level, to the highly-evolved nervous system of the human body, up to the technologically advanced information processes of modern human society.

### **The biological and human-social bases of information**

Information has a deep biological basis. Single-celled organisms exhibit simple stimulus-response reactions to environmental changes, based on the cell's biochemical properties. Complex organisms

evolve more elaborate control mechanisms, such as hormone-based endocrine systems and more rapid-acting, neuron-based nervous systems. With these, an organism can rely on a complex information system that senses the changes in its environment, reflects them internally as electrical, chemical, or mechanical changes, and controls the appropriate behavioral responses.

Higher animal species possess more developed nervous systems, which act as still more complex information systems. In particular, the animal brain and its cerebral cortex gradually acquire a tremendous capacity for rapidly storing and integrating information. It forms the basis for incipient intelligence, i.e., for more complex adaptive behavioral patterns and learning processes, and more elaborate communication systems particularly among social animals.

On a deeper biological level, each species relies on genetic material (DNA) as the mechanism for long-term storage and transmission of information beyond the life of an organism or cell. Unlike humans who have developed the intelligence and technology to sustain culture and civilization across generations, lower life forms can only store and transmit life's legacies to their offspring through the mechanisms of genetics, heredity and evolution. Still, genetic information stands as the most primal collective legacy of all species, humankind included.

Human society emerges with a giant leap in the evolution of the brain and nervous system, allowing us higher modes of mental-motor capabilities, including the use of language and technology. Humanity has thus brought the phenomenon of information far beyond biological processes, into the realm of distinctly human-social (economic, political, and cultural) processes.

Unlike animals, we are no longer fully dependent on genetic (physiological and instinctive behavioral) adaptations to our environment. Instead, we evolved technology, social production and economic life, and the corresponding modes of social organization and governance. We developed the use of science, technical know-how, literature and arts, religion, and ideology as the long-term repositories of society's capacity to understand, control, and adapt to its expanding environments and its own internal processes. All these fields of human endeavor are permeated with information continually produced, accumulated and preserved through the ages.

### **Information as a constantly-growing product of intelligent (human, social) activity**

The entire universe can indeed be seen as latent information, insofar as it is knowable by intelligent beings. On the other hand, real information is derived from the universe only through the physical and mental labors of these beings, who interact with their environments, observe, think, and communicate among themselves. In short, it is our conscious activity that transforms the latent information of the universe into definite, living bodies of socially useful information.

While interacting with our natural and social environments, we absorb an endless stream of information into our minds, initially on the level of sensory data and perceptual ideas. At the same time but on a higher level, our minds constantly store, integrate and process these data to form a mental universe of concepts reflecting the outside world. In the process, countless bits of diffuse information become linked together and grouped into bigger and more organized collections or bodies of information. Marxist materialist philosophy has a well-developed view of how ideas develop in the interaction of practice and theory, and how these ideas cumulatively grow and then make a qualitative leap from perceptual to conceptual knowledge, in a spiral and radial path of development.

The point we make here is that information, by its very nature, undergoes cumulative and explosive growth through constant social activity. There are remarkable parallelisms and linkages in how a society's material wealth in general is created and regenerated, accumulated and appropriated, and in how its information wealth in particular undergoes similar processes. Most Marxist concepts of political economy that apply to production systems of goods in general, also apply as well to the production of information-based goods and services in particular.

Independent of human activity, the biological world also produces information at an entirely different level: genetic (DNA-based), behavioral (hormone-based, neuron-based), and in certain species, distinctly intelligent (language-based) information. But much of these biological troves develop through very different processes, are yet unknown or only initially understood by us, and will require prodigious use of human intelligence and technology to gradually assimilate them into our collective repository of useful information. We mention them at this point, because the tools of science and the motives of capitalism have begun to make this assimilation process technically possible and commercially profitable.

### **Information technology**

One unique and powerful attribute of human interaction with the environment is the use of technology – tools, skills, and highly-organized activity, which amplify our native physical and mental capacities in economic production, scientific study, and social relations. Every society evolves certain types of technology and production strategy (“forces of production” is the approximate Marxist term) that reflect its adaptations to specific environments and stages of historical development.

In our handling of information, we use and develop special types of technology as well, or what are now popularly referred to as information technologies. These are the physical and logical instruments of thought and expression, by which the constant flow of information within society is stored, organized, amplified and circulated. Examples: writing and other symbol systems; printing; electro-mechanical, magnetic and photochemical recording; telecommunications; computer technology, and many more. Through the past millennia, these technologies have greatly extended the power of our senses, brains, and spoken languages, in recording and quantifying our observations, in organizing and analyzing large masses of data, and in amplifying our native communication abilities.

### **The materiality of information**

It is often claimed that information is a “non-material” entity. Surprisingly, corporate IPR defenders and some information activists agree on this idea. The most strident claims come from post-Marxist theorists who take potshots at Marxist materialism and assert that Marx does not apply to “non-material” information goods. But before we join the issue, let us first clarify the terms “message” and “medium” – which are central to the concept of information.

A piece of information is a certain message or symbolic expression – a specific signal pattern that carries a certain meaning according to a pre-arranged set of basic patterns or symbols and their equivalent meanings. For example, the two-character word “AD” is a pattern based on the Western alphabet. (It can also stand for different messages – the Latin “anno domini”, the English word “advertising”, the Kankanaey “from/of [place],” or decimal 173 in hex – depending on which symbol set, convention, and language we are using.)

Now any message or meaningful pattern, to persist in the real world, must be recorded into some material substance, often called the physical medium. The same pattern could show up in different physical forms on different media: e.g., as letters on a printed page, as a series of 1's and 0's in computer memory, as a series of Morse-code dots and dashes sent over radio waves.

So, back to our question: is information material or non-material?

We perceive the world of material things with our senses, and reflect them into patterns that our minds can handle. What we call “information” is not the material thing that we sense, but the symbolic reflections that our minds and information tools can handle. So information is indeed “non-material” – but only in the sense that the contents of our minds are subjective, disembodied reflections of an objective, material world. But these “non-material” reflections must continue to reside in some material medium – whether that medium is our cerebral cortex, a book, a computer, and so on.

Since a message can exist in so many physical media and still be recognized as the same message, information appears to transcend the materiality of media and acquires the illusion of non-materiality. Thus, in our minds, the message can be viewed as medium-independent, with its own separate existence. But in reality, any message is always embedded into some medium.

In short, information is derived from material objects, and continues to exist only by being embodied into other material objects. Clearly, information's non-materiality is relative and transient, while its material basis is absolute and permanent.

### **Is information inexhaustible and indestructible?**

It is often claimed that “information doesn't wear out, is not used up, and is virtually indestructible.” Again, this is true only if we consider information in the abstract, and forget that it persists only through physical storage media, which can be destroyed, get lost, or wear out.

A piece of information only appears inexhaustible and indestructible, because we make sure that multiple copies of it remain safely stored in various storage media. If somebody ever succeeds in destroying every copy of *Noli Me Tangere*, then we will have lost Rizal's novel forever. Don't laugh and say, “But that can't happen in real life!” Sure it can; just take a look at the sorry state of our national archives. Remember too that entire languages have been irretrievably lost in the span of a few generations.

The widely celebrated “free” nature of information (“one can give them away without losing them; essentially zero cost per copy”) is not exactly true. The information itself is not consumed in the process of use; but storage media wear out, and using or copying the information consumes energy and materials. Digital information is now copied so easily and at less cost, that's true. But making and maintaining a new copy still incurs appreciable cost – even if we compute just the cost of the space it will occupy on your PC's hard disk and the per-minute cost of staying online to download it from the Internet. Let us remember, too, that modern storage media are dependent on specialized retrieval, playback, display or printing machines (not to mention backups), which all require energy and other consumables.

In short, we cannot escape the materiality and cost of maintenance and reproduction of information. Again, we emphasize this point because it will figure prominently in our understanding of the

economics of information.

## **The basic role of information in society**

The basic and wide-ranging roles of information and information systems in human society are so comprehensive and axiomatic, we need not enumerate them all here. They are indispensable in humanity's constant interaction with nature through production and scientific research, in all fields of social relations (relations of production, political relations, domestic relations), and in the realm of culture, ideology, and religion.

At this point, let us merely list some concrete examples in the modern world to suggest the ever-growing and tightly interconnected sources, forms, and functions assumed by various economic, political and cultural institutions that behave as society's information systems:

- print media: books, newspapers, magazines, printing facilities
- radio-TV broadcasting, cable TV
- postal and telecommunications (telegraph, telephone) services
- computer software, databases, Internet services
- media studios and labs, service bureaus, ad agencies
- recording industries: music, video and film
- live performing arts: music, drama and dance
- visual and structural arts: graphics, sculpture, architecture and design
- galleries, museums, libraries, archives, documentation centers
- science and technology: research and development centers
- schools; the academic community in general
- professional consultancy services
- government services dealing mostly with the collection, analysis, storage, and dissemination of information
- political parties and NGO's, particularly their information-oriented resources
- churches and religious activities
- daily community life and group activity

While we do realize the growing role of information in all fields of modern society, it is too sweeping and premature to view this trend as proof of an emergent "information sector" of the economy – much less as heralding the rise of Western "information economies". The evolving roles played by information in modern times have not resulted in fundamental shifts in the mode of production, whether from agrarian to industrial in the case of the Philippines, or from industrial to the so-called "post-industrial" in the case of advanced Western capitalist economies. We hope to discuss this major question on some other occasion. For now, let us proceed to a discussion of more specific economic issues surrounding information.

## **ECONOMIC CHARACTERISTICS OF INFORMATION GOODS**

### **Information embedded in all products**

Today there is popular talk about information goods, as if they were a new class of goods, and as if everyone understood what exactly these goods are, and how they differ from the usual products of economic activity. But before we go deeper into the discussion, let us emphasize that all products of human activity contain useful information one way or another. Some products are information-rich, enhancing their value, others not so much or only incidentally.

The main point here is that a certain degree of mental labor always underlies the manual labor and the use of machinery and materials that go into the making of any product – whether the product is a computer chip or a camote chip. In this sense, we could say that certain types of useful, human-processed information is invariably embedded into (and to some extent retrievable from) any product of human activity. For example, considered as a product type, modern automated machinery contains not only the “dead manual labor” of those workers who manufactured it, but also the “preserved mental labor” of those who designed the machinery, especially its automated control mechanisms that mimicked simple mental functions. Even a single camote chip can be said to embody its maker’s recipe.

Such information can always be gleaned from the attributes of the finished product, in the product’s design, craftsmanship, and materials. In fact, in order to “reverse-engineer” a product (i.e., derive crucial information on how exactly it is manufactured so that one can duplicate the process), the first step is to get hold of that particular finished product so it could be thoroughly analyzed.

Agricultural and natural products also contain valuable troves of genetic information (even before the advent of genetic engineering), which in the case of crops and livestock are typically modified by millennia of artificial selection and breeding under human care. This information can be re-harnessed back into production, simply by acquiring the “parent versions” such as seeds, plant stock, livestock, fermenting stock, etc. and allowing their reproductive cycles to continue.

### **What are information goods? How are they produced?**

While all products contain some information one way or another, people really produce a certain class of goods whose use-value is mainly in their information content. (Although there is really no yawning gap between the two, as makers of pocket planners, designer T-shirts, and cellphones realize.) Thus, people nowadays talk about information as a valuable resource, even as a saleable commodity – in short, an “economic good.” Some writers now routinely refer to an economy’s “information sector” – those enterprises and professions whose business it is to produce information goods.

A crucial question arises: Which is the information good? Is it the specific set of ideas or body of information itself, regardless of the media it might be actually stored in? Or is it the medium itself, insofar as it contains or is able to access the information we want? This question is not hair-splitting, because it has deep-going implications in the economics of information, and must be clarified right at the outset.

Take the Joey Ayala song *Magkabilaan*, for example. Now, what exactly is the information good here: Is it the song itself, independent of the various musical forms and storage formats it might exist in? Is it the lyrics and the basic melody, or perhaps the original arrangement of the song, as put into sheet music? Is it every live performance, or only the authorized or original recording, or every copy of that recording?

If I buy the *Magkabilaan* album on cassette tape, am I buying an information good in its own right, or just a copy of the original musical good that remains with Mr. Ayala or his recording company? If I make 10 good-quality copies of this album, have I created new goods, or just copies of one and the same good? If I record my own rendition of his *Magkabilaan* song, with some changes in the lyrics and harmony here and there, have I created a new information good, or am I just a shameless thief?

According to a widespread notion, expressed both by corporate IPR defenders as well as some information activists, the information good is the original body of information, the primal copy so to speak. The mass of copies as reproduced and stored on units of media are just that – copies of one and the same information good. It is claimed that the basic production process for information goods entails mainly mental work by intellectuals, with the help of information tools, to create the original or primal copy. After that, it's all boring reproduction work by craftsmen and wage-slaves.

In publishing a book, for example, it would appear that the information good is the final manuscript or the camera-ready masters of the book, after it has undergone mainly mental production work by the book's author, perhaps with the help of research, editorial, and artwork assistants. This implies that the actual printing of the book, say by workers using an offset press, is outside the production process or only a marginal part of it.

A Marxist would view the issue differently. Consistent with the materiality of information, the medium itself (insofar as it contains the relevant information) must be considered as the information good. Thus, whoever were involved in embedding (copying) that specific information into that specific medium, should be seen as the creators of that particular information good.

If I compose a song in my head, I'm not making any information good, although it is the start of the process. If I perform a song live, you could say I'm making a very short-lived information good. Or you could equally say, I am doing a useful service of entertaining others through music. Or I am merely expressing myself, which has nothing to do with economics (especially if I'm singing alone in the bathroom).

But if I record this song on tape, then I've made a single information good. Now if someone else learns to play the song and records her own rendition on tape, then she has made another information good. If she then gives a copy of the tape to another person, who then makes 100 copies, then that third person has made 100 more information goods. The different tape recordings of the song might have different values due to differences in performance and recording quality, and we might validly trace the production of goods from parent to child generation – but each one remains an information good in its own right.

The same principle is applicable to writings, art works, computer programs, inventions – to the whole range of reproducible information.

### **Authorship and the actual production of information goods**

The last point brings us to another popular notion – that “intellectuals are the main creators of information,” that they are the main producers in the information sector, earning their living through mental labor. This is a wrong notion, on two counts:

As we said, in the modern world, it is mainly the working class (as categorized by economic position,

not by degree of mental work like intellectuals) that mass-produces the goods containing information. It is they who run the service infrastructures ensuring mass delivery of information to the public.

Furthermore, the masses of toiling people are the main wellsprings of information. In any society, intellectuals do figure prominently in creating, gathering and organizing information, because they have all the time for mental labor, being generally free from the obligations of productive manual labor that is the burden of the toiling masses. They also have better access to information technology. But even then, the anonymous mass also creates and regenerates information, on a daily basis and on a large scale. While the bulk of such information is rather raw, dispersed and perishable, much of it is equally valuable to society. The masses are the inexhaustible source of folk culture, from which professional artists, writers, researchers and other intellectuals freely derive a lot of their material – often without credit.

It must also be emphasized that even among intellectuals, there is a growing tendency for new bodies of information to be socially produced outside the traditional realm of individual or informal-group authorship. Increasingly, it is a larger mass of office-type or studio-type workers (e.g. encoders, equipment operators, researchers, clerical workers) who create new information or add to an ever-increasing body of institution-created information as a routine, daily collective activity involving both mental and manual labor. Just consider how atlases, encyclopaedias, dictionaries, databases, newspapers, and broadcast programs are produced and updated in the modern world.

Looking at the production process as described above, we can see the important distinction between authorship on one hand, which creates the information that goes into the making of an information good, and the actual production of this information good on the other hand.

The author will typically make a primal product – her original work put into its original medium. This first information good takes on an intrinsic value, which may or may not be different from the value of the next goods that are copies of the original. The point is, once conditions allow that copies are made of the original work, especially under conditions of mass production, authorship has become separate from the main production process.

In the case of publishing a book, the author normally makes just a few information goods – the one or few copies of his work in manuscript or digital-document format. A publishing house processes the document into another information good – the camera-ready master copy, or perhaps the actual print-ready plates. Then the print workers use this good to mass-produce hundreds or thousands of copies of the book, each copy an information good in its own right.

In the case of a computer program or database, the distinctions between what is original and what is a copy tend to become blurred, but still generally valid because usually the author releases only a compiled or packaged version of a program, while keeping to himself the source code. (If the author releases the source code, this very step creates the conditions for slightly different source codes to arise, and for an authoritative site to maintain the official copy.)

The author of a computer program is usually able to make as many copies of the program as he has available diskettes and the patience to do the usual procedures of copying, verifying, and labeling each disk copy. In this sense, he can make many information goods out of his original program, and is akin to a medieval craftsman. But any worker who has no programming skill but has been trained in the disk-copying process can produce these same information goods (copies of the program), probably at

the same rate as what the author of the program can do. The conceptual separation of authorship and mass production of information goods remains valid.

In many fields of literature and arts, particularly in the performing and applied arts, there will also be a series of craft workers (such as performers, editors, designers, and directors) between the original author and the mass production of information goods. This arrangement further underscores the separation of authorship and mass production.

For example, if we produce a video of Macbeth in Pilipino, we should certainly credit Shakespeare for authoring the original play, but he is definitely excluded from the video production process. The same goes for other ready-made inputs to the video being produced, such as canned music or existing costume designs. What we could consider as the real creators of the video (the master copy, to be exact) would be the Pilipino screenwriter, the director, the performers, those who made original inputs in design and music, and the entire production crew. Yet the master copy is still just one copy. Production plant workers are still needed to operate the machines that create the actual mass product, which is the tape we buy or rent at some video shop.

Does this approach deny credit to the original author of a literary or art piece, or the original inventor of a device? Not at all. Her authorship remains linked to the overall process of making information goods in general, of enriching our culture and knowledge in general. Every society will evolve its own mechanisms for acknowledging the authors or originators of what it regards as valuable contributions to its treasury of culture and knowledge. But individual authorship must not be used to depreciate the essentially socialized and increasingly collective character of producing information goods.

### **The difference between information goods and services**

Another source of confusion, which can restrict our understanding of the economic aspects of producing information, is the tendency to mix up the attributes of information goods and services, which are two different categories.

What are goods? In general, goods are material things produced by humans (or obtained by them from nature) that are useful to humans or to their society. In a more restrictive sense, however, goods are things produced in such a way that their usefulness (their use-value, in Marxist terms) is stored for some time as specific properties of objects outside the human body. In this form, they can be used at another time or place, perhaps by another person. As material objects, goods can be transferred, possessed, appropriated, distributed, damaged, destroyed.

What about services? Various social and technical considerations often move us to produce useful things that are not storable (or not normally stored) into objects outside ourselves, but must be used and consumed on the spot, at the very time or place it is being produced. The thing produced thus is not normally considered as a good, but as a socially useful human activity, as a “service” if we insist on economic terms. For example, transportation, trade and finance are specific services, which do not produce any new goods. The same is true of communication carrier facilities such as postal, telegraph and telephone services. Still another example would be educational services such as what schools provide.

One might insist that services are merely a special type of goods, or are intermediaries in the production chain of goods. For example, eating at a self-service cafeteria can be seen as mostly buying

cooked food – which is a good. But you also use the cafeteria's dining facilities – which is clearly a service. Another example: A Kalinga healer can prepare a special tea to cure your illness (a good), and at the same time he can also explain to you how to make the tea yourself (a service).

We can cite other gray areas or hybrid examples. In any case, the available technologies, as well as the social choices which people make, will usually determine whether a useful object is produced mainly as a good or a service in a concrete historical setting. The key difference stands: If the usefulness created by human activity is stored in an object, then that object becomes a good. If the usefulness of a human activity is directly translated into human benefit (not stored in an object), then that activity is a service.

Information, delivered and consumed not as a good but more as a service, has always been a crucial part of a society's economy and culture since time immemorial, albeit excluded from most economic accounting. The growth of information goods, especially mass-produced information goods, are a more historically recent phenomenon.

### **Information goods and services are not necessarily commodities**

Information goods and services are not necessarily commodities, even in a market-oriented economy such as what we have now. Much of these types of goods and services retain their original non-commodity character and yet remain economically valuable. They can turn into commodities by entering the actual market environment and acquiring exchange value, but that is a function of the existing social system, not an inherent attribute of a good or service.

For people reared in a market-based society, it is often difficult to separate the consumable or use value of a good or service from its marketable or exchange value as a commodity. Thus, the mere mention of “goods and services” may imply that the goods and services are for sale. But even in our type of society, much of the goods and services do not pass through the market, but through pre-market or extra-market modes of distribution and exchange. Just consider the goods and services that are created by housekeepers (mostly women) and consumed within a household. Thus, too, innumerable and invaluable bodies of information are stored into various media and thus become information goods, yet do not necessarily turn into commodities.

The government produces tons of very useful information on a daily basis. It is in fact a major (if not the principal) institutional producer of information-rich goods and services. Yet such information belongs to the public domain, at least as officially defined. Many NGO's, those other mighty producers of tons of information goods, remain averse to the idea of treating their storehouses of information as commodities for sale.

A priceless collection of rare photos or historic archives might even be considered as a special type of information goods for purposes of economic accounting, but not really as saleable commodities – lest the owners get swept off their feet by offers from antique dealers and book or software publishers. (Actually, I'm reluctant to use the term “information good” for such repositories of a family's or a nation's history and honor. But they do fall into the category of goods when we make a full accounting of the family's or the nation's resources.)

The point here is to underscore the significant trend under modern capitalism, particularly with the impact of great advances in information technology of the 20th century – the expanding privatization,

commodification, and mass production of information goods and services, which has transformed cultural creativity and scientific research into a lucrative business enterprise. It is this trend that is being mistaken for the supposed emergence and even rise to dominance (in the case of the U.S.) of a distinct “information sector” of the economy, on top of industrial and service sectors in general.

### **Should genetic information be classified as information goods?**

A controversial issue is how to deal with genetic information. Should genetic information be classified as information goods?

Genetic information is of course a special type of information. But it does not follow that genetic material itself can be classified as an information good. In the same manner, bodies of oral traditions are a specific type of information, but it does not follow that their primary sources – persons who perform the valuable role of reciting them during community rituals – thereby become information goods. This question is both a theoretical and a moral issue.

Now, goods are most appropriately defined as things produced or modified by human labor for some useful purpose. Things that we routinely use in their natural state, with no or very minimal human labor input, are not normally considered as goods even if they are indispensable to us. For example: the very air that we breathe, the ground that we walk on, the sunlight shining down on us, wild edible fruits picked along the way, natural springs from which we drink, the rock ledge we sit on, etc. (Well, I could understand if somebody insists in calling them “natural goods,” but then that term could apply to our whole environment.) Clearly, DNA in its natural state is not any type of good, because no purposive human labor has been involved in the creation of its structure, and since it obviously replicates without any human intervention.

However, with vast scientific efforts in the field of biomolecular sciences, scientists are rapidly accumulating human knowledge about the DNA, including detailed maps of specific genomes and genes, which are stored in computer storage systems. This vast body of information has become a priceless information good, a truly scientific achievement – although we shudder to think about the possibilities of its being turned to commercial use or medical abuse.

Some theorists say that genetically modified material itself, in so far as it can be used to produce other genetic material, can be considered as one type of information good. Without prejudice to the moral and ecological issues involved in their production, we would prefer to call such products as agricultural or biomolecular goods. After all, most agricultural peoples have evolved, through millennia of artificial selection, their own distinct crop seed varieties, livestock strains, special herbs, and fermentation starters – which are valued equally for the genetic information they contain as for their nutritional, gustatory or medicinal value.

## **INFORMATION TECHNOLOGY, PRODUCTION AND OWNERSHIP: OUTLINE OF BROAD HISTORICAL TRENDS**

### **Primitive stage**

At the dawn of human history, society took the form of small and dispersed nomadic or semi-settled communities that practiced primitive communalism. They relied on hunting-and-gathering production systems, later graduating to incipient and simple forms of agriculture, and engaged in economic, political and cultural egalitarianism. The subsistence economies probably enjoyed a sporadic surplus, but these were soon plowed back into reciprocal exchanges and redistributive community gatherings as soon as they were obtained. Logically, information was part of community culture, and tightly integrated with the production of subsistence-level goods and services.

Such communities were generally pre-literate, but made up for it by developing highly elaborate forms of vocal and non-vocal communication, as well as sophisticatedly simple tools and devices to aid human memory and speech. These most probably included oral literature, music, dance and drama, other ritual devices, body dress and decoration, realistic and geometric markings and carvings that served as long-term symbol systems, and long-distance signaling systems (which must have been of prime importance to nomadic life and hunting trips).

All community members must have contributed to and benefited from indigenous knowledge systems more or less on equal footing, with some differentiation based mostly on age, sex, and relative aptitudes. Training of the young was informal but intensive and tightly integrated into the daily activities of the band, clan or tribal community. Knowledge diffused too among neighboring communities, albeit more slowly, through incipient trading, marriage and war alliances.

Elders, shamans and women healers must have been highly valued and respected by their communities because of their long experience, deep knowledge and special skills – as they still are among present-day indigenous peoples with subsistence production systems. But they did not enjoy the high privileges of caste and class that would predominate in the next historical stages. It was of prime interest to the community that they shared and imparted as much of their knowledge and skills to other qualified community members. There must have been information restrictions too, through religious taboo and tribal or clan secrets, but they were for the protection of the entire community, not for some individual property right.

## **Ancient and medieval periods**

Primitive-communal societies ultimately gave way to ancient slave-owning and medieval-feudal societies, whose economies centered on agricultural production systems supplemented by handicraft-level industries. These production systems ensured a steady surplus but were based on the exploitation of a great mass of slaves, serfs and artisans. The exploiters were a hierarchy or succession of slave-owners, feudal landlords, and despotic bureaucracies, who inescapably also held state power at various levels as ruling classes. Ancient and feudal economies were also characterized by a combination of basic local self-sufficiency and the growth of commodity production reinforced by regular long-distance trading (and raiding). The emergence of surplus production and the growing needs of the state and ruling classes dictated the cultural directions taken by society.

Ancient and medieval civilizations were highly literate and numerate, in the sense of having used writing, mathematics, and other complex symbol manipulation systems to produce prolific records – mostly for the state's purposes of economic accounting, legal administration, civil works and military operations, astronomical-agricultural reckoning, and their associated religious rituals. Through centuries of continuous existence, these civilizations accumulated massive amounts of written, graphic, and other records, including those concentrated in archives, libraries, palaces and royal tombs. These

are priceless legacies to present-day humankind as we continue to discover and study the remains of these civilizations.

General periods of material prosperity engendered explosive growth in literature and arts, empirical sciences, and speculative philosophies. However, key information resources and specialized skills were increasingly restricted and even monopolized in the hands of the wealthy ruling classes, through the dominant and often merged institutions of religion and state. They depended on privileged retinues of warrior, priestly, intellectual, scribal, and craft castes, which were often exclusionist in membership and fully exempted from the backbreaking drudge of manual labor in the fields, mines, sweatshops, and construction sites. In any case, the small scale of information technologies itself required the slow and laborious processes of manually recording and reproducing, performing or verbally transmitting, and physically transporting information.

Of course there were intermittent periods of stagnation and massive destruction as economic crises, wars and revolts resulted in the loss of whole communities, productive forces and material wealth. These included the destruction of priceless records and artifacts that could have enabled succeeding generations to learn both from the wisdom and the folly of their ancestors. But even in the most stable, peaceful and prosperous periods, the masses of slaves, serfs and subject peoples were denied the products of literature, arts and the sciences that their masters enjoyed as a matter of daily routine. In fact, the overwhelming majority of slaves and serfs remained illiterate and ill informed, although they did carry on with their rich traditions of folk culture. Formal education and training through institutions and private tutors were reserved mostly for the children of the ruling, wealthy, and intellectual elite, as a matter of strict class privilege.

### **Modern capitalist-industrial stage**

From the 16th to the 19th centuries, particularly in Europe, North America, and parts of Asia, the maturing feudal-mercantilist societies gradually transformed into capitalist countries, and sooner or later organized into nation-states. These countries developed industrialized economies, which centered on the machinery-driven mass production and distribution of commodities to be sold for profit. Social wealth accumulated mainly as private capital in the hands of a numerically small but socially dominant capitalist class. A large industrial working class, plus analogous workforces in the agriculture and service sectors, comprised the biggest but most exploited mass of the population. Prosperous times allowed growth for a distinct middle class of professionals and small owner-producers.

Advanced capitalist countries soon turned into imperialist powers, driving into other parts of the globe, oppressing less-developed countries and plundering other peoples who until now suffer the multiple crises of semi-feudal stagnation, the effects of global capitalist overheating, degradation of national sovereignty, and cultural breakdown. The Philippines, colonized for 400 years by two Western powers and occupied in wartime by an Asian power, is just one of many examples.

Global capitalism created tremendous advances in scientific knowledge and invention, veritable riches in literature and arts, mass-culture environments, and the expanding IPR regimes that characterize modern society. Information technologies became more and more mechanized, i.e., dependent on powered machinery and machine-compatible media, creating the basis for the mass production and mass delivery of information goods and services at increasingly larger scales, higher speeds, and more varied formats.

These theoretically provided the masses with a much broader access to information. Some of the services, such as the establishment of free public schools, mass literacy, and mass communications, did much to raise the cultural level of the whole population. But increasingly, the masses find out they have to buy information as privatized goods and services, as commodities. At the same time, their folk culture suffers breakdowns, privatization, and cooptation into the established mass culture of capitalism. Their loss of folk culture is replaced by mass entertainment and market-driven consumerism as dictated by the czars of commerce and elitist culture.

Instead of ensuring greater access to information, the state's new IPR laws (on copyrights, patents, and trademarks) impose unprecedented restrictions on the traditional right to copy and use intellectual works, thereby redirecting cultural-scientific activity away from mass initiative and folk authorship, towards commercial mass production and private individualized authorship. Only a lucky few are rewarded by this system.

The development of modern information technologies and their impact on society may be divided into three phases:

- **Phase 1 (16th to 18th centuries):** printing, newspapers; development of modern universities; most information is still considered public-domain resource, although copyrights and patents are already practiced in certain fields.
- **Phase 2 (19th to early 20th century):** technological advances in mechanical, chemical, electrical reproduction of graphics and sound (photography and film, audio-video), in long-distance instantaneous transmission of text, sound, images; broadcast media; national public school systems; IPR regimes established on national scales
- **Phase 3 (late 20th century):** digital information revolution; migration of information technologies from mainly mechanical to mainly electronic, and from mainly analog to mainly digital; the increased convergence of manual and mental labor in certain sectors, assisted by increasing automation of production processes and services; rapid global expansion of Western-dominated IPR regimes

### **The impact of the 20th century “information revolution”**

Tremendous 20th century advances in the field of information, which amount to a veritable technological revolution, have a major impact on the development of capitalism.

On one hand, imperialist powers and corporations are provided with more powerful scientific, military, industrial and propaganda tools – from satellite imaging to genetic engineering, from high-tech intelligence to automated weapon platforms, from high-tech Hollywood to instantaneous CNN. They are thus armed with more aggressive and intensive techniques in their continuing domination of other countries, plunder of the world's resources, and glorification of the capitalist lifestyle and ethic.

At the same time, these same new technologies encourage the mass production of new, high-value information commodities protected by the global IPR regime. Surges and scrambles in the IT and information markets create a transient dynamic reminiscent of robust, free enterprise capitalism. But after each round, the underlying dynamics of monopoly capitalism reasserts itself. Thus, the new technologies only appear to forestall, but actually intensify the global crisis of over-production.

There are claims that a “cyberlord class” has already replaced the industrial capitalist class in countries

such as the U.S. In truth, the new batch of successful companies riding on the information revolution (such as the likes of Microsoft, Sony and Intel) are just treading on the same path taken by the railroad, telegraph and oil barons a century ago: join up with other profitable industrial and financial companies through mergers and buyouts. The result actually validates Lenin's main theses on imperialism, with the monopoly capitalist class coming from the ranks of industrialists, bankers, traders, landed aristocracy, and speculators.

On the other hand, the same technological revolution has in fact enhanced the social character of production and the role of the working class in leading the way out of the capitalist crisis. Contrary to the pipedream that a new elite "digitariat" has pulled the rug out from under the proletariat, droves of white-collar, computer-literate workers are in fact joining the category of industrial workers. If at all, the proletariat is absorbing unto itself the intellectual qualities of the so-called "digitariat".

The specific sociology, cultural values and lifestyles of the working class in the advanced capitalist countries at present show great differences with those of their counterparts working in smokestacks and sweatshops a century ago or more, such as described by Engels in England. But their essential position in the process of production continues to place them in fundamental conflict, not in agreement, with the capitalist system. It is to the advantage of the working class that its ranks are more than ever intellectualized.

## **TOWARDS A PEOPLE'S INFORMATION ALTERNATIVE**

The preceding theoretical and historical overview should now help us consider the prospective conditions and options in working towards a people's alternative to the current IPR regime. I offer the following preliminary guiding concepts:

### **Resist the present regressive and exploitative global IPR regime**

Although the general notion of "intellectual property rights" is not regressive, it is extremely regressive and exploitative as interpreted and implemented through the present global IPR regime. It gives so much advantage to foreign corporations as the principal IPR holders globally. At the same time, it effectively bars our people from getting the freest possible access, at the least cost, to the vast storehouse of knowledge and useful information that is already technically available to us. It even encourages our own intellectuals to play the IPR game for a chance to hit paydirt, instead of urging them to work for other means of recognition and compensation while serving the people with their creations and innovations.

Thus, our minimum demand must be to reject the IPR-related impositions of the WTO, of the major Western governments, and of the corporate IPR holders, on the Philippines. In this regard, we reject the Intellectual Property Code as an unjust imposition on the Filipino people. We must call on all progressive and patriotic people in the fields of literature and arts, the sciences, mass media and education, to undertake critiques of the IP Code and propose alternatives.

We must also fight against the attempt, particularly by foreign or multinational corporate giants, to prospect locally and to acquire or enforce patents on strategic or potentially dangerous inventions (such as bio-genetic resources), or copyrights or other types of private claims to nationally strategic

information, including those of priceless historical or economic value.

## **Replace regressive IPR with progressive intellectual production rights**

In a broader sense, we question the very concept of IPR in its general form as privately-held copyright and patent rights, insofar as it gives the copyright or patent holder an absolute right to decide whether to give permission or not, to whom and for how much, for their publicly accessible works or inventions to be reproduced.

Once its creator has publicly released a work or invention, by knowingly and voluntarily allowing it to be reproduced and opened to public scrutiny, then others must be given the right to recopy it for purposes of public benefit, subject to regulation. We must also protect the creator's legitimate rights (for his intellectual work to be credited to him, for his labor and creativity to be compensated, and for his work's public success to be rewarded). But there are alternative mechanisms for this. We must explore and adopt alternative ways of recognizing, rewarding and encouraging innovation and creative work that do not put the authors' and inventors' rights in conflict with the people's overriding need to benefit from their creations.

In this regard, our maximum demand on the issue of IPR is to work for the gradual restriction and ultimate phaseout of private and ultimately regressive IPR instruments such as the traditional Western model of copyrights and patents with their emphasis on royalties. In lieu, we must work towards their transformation into (or replacement by) progressive intellectual production rights. For example, we can explore new mechanisms along the lines of the General Public License (GPL) used by GNU computer activists, or along the lines of former socialist copyrights and patents with their stress on public non-profit benefit and protection of the national interest.

Legitimate intellectual production rights may also be further ensured through such mechanisms as direct public commissions, sponsorships, subsidies, rewards, and promotion to special positions, which should encourage and assist professionals and amateurs to contribute more literary, artistic, scientific and technological creations in the service of their country and people. These arrangements could be done through government agencies, professional academies, and other public organizations. We must also explore mechanisms by which indigenous peoples can share their traditional knowledge at their own pace and terms.

## **Public control over strategic information resources, support of legitimate private interests**

The struggle must not be limited to questions of intellectual property rights, but must be expanded to the more strategic question of ensuring public control and ownership over the most vital areas and facilities of information technology, production and delivery of information goods and services: e.g. schools, mass media, and telecommunications, among others.

In this way, we can have the means as a nation to ensure public access to information resources – including education, literature and arts, and mass media – at the least cost. Democracy requires that the public enjoy the freest possible flow of information, with appropriate considerations for national security, privacy, and community norms.

In order to ensure true ownership and control by the public, and not by corrupt government

bureaucracy, we must campaign for democratization among public institutions. We must ensure mass supervision and even a degree of mass participation in running the institutions controlling such strategic facilities.

At the same time, we must recognize and encourage the continuing role of private initiatives and efforts – especially by non-profit or voluntary projects, cooperatives, traditional communities, family-based small enterprises – in pursuing their legitimate interests in the various fields related to information. Those private educational, scientific, literary, artistic and mass media efforts that are clearly devoid of private commercial or narrow political interests must be given priority government support.

### **Towards a truly patriotic, popular, and progressive culture**

Finally, all the above efforts must be clearly placed in the context of developing a truly patriotic, popular, and progressive culture in the fields of science, education, mass media, literature and arts. It is a culture that upholds national over foreign interest, broad public over narrow private interest, and progressive over regressive social relations.

The broad masses of our people are beginning to awaken and move. They do not simply want free access to what information is available. Much less do they need to be force-fed false information and mind-numbing trash. They want access to information resources that can help articulate and achieve their own needs and aspirations, that can help liberate themselves from ages-old exploitation, oppression, and ignorance.

As social activists and issue advocates in the various fields of information, we must push ourselves to bring our cultural, education, mass media, and scientific work into convergence with grassroots-oriented, community-based mass movements. Among our colleagues in the various fields of work, we must campaign for a patriotic and mass-oriented set of values and work ethics, and constantly uphold the spirit of serving the people instead of just looking out for ourselves. Indeed, what could be the most ennobling task for progressive Filipino writers, artists and scientists but to offer their intellects unconditionally in the service of the people?

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Note: When this piece was first published in 2001, Pio Verzola Jr. was a member of the Cordillera Peoples Alliance (CPA) and Agham at Teknolohiya para sa Bayan (AGHAM), and concurrently editor of Northern Dispatch Information Service (NORDIS). He was also providing research and I.T. services for several grassroots NGO's in Baguio City, Philippines as part of the IRAIA project. This paper was earlier presented as a lecture during a symposium on science and technology sponsored by Agham-Youth, 23-24 September 1999, at the National Institute of Geological Sciences (NIGS) auditorium in UP Diliman, Quezon City. It was subsequently published serially in the IBON *Perspectives* magazine Vol. 1 (1999) Nos. 18-20 (Sept. 27, Oct. 11, and Oct. 25). This version, which includes only minor sentence revisions and additions from the original, was reposted among the documents of the UN World Summit on the Information Society. (<http://www.oalit.net/www.wsis-pct.org/IPR-alternative.html>). Mr. Verzola is currently a research consultant of IBON International, and plans to update this essay soon as a longer work. (Ed. 2017-01-06)

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