

Rights and Intellectual Contributions

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Abstract

Rights and Intellectual Contributions examines how an intellectual work is produced and distributed in the intellectual property environment. It examines the way in which copyright uses the proxy of copies as a means to link intangible expression to the tangible world and how this link breaks down when digital copies are the transmission medium. It proposes a new, contributions model for the creation and dissemination of creative works and suggests an alternative regime under which individual rights to the creative effort, itself, are allocated. The paper concludes by presenting a 'Rights Office' System that would facilitate a practical implementation of the model.

1. Intellectual Contributions v Intellectual Property

When Azeem Azhar [1] introduced the term Intellectual Contributions he suggested that:

“...many of the assumptions we make about 'intellectual property' might be reinforced by our choice of words. By the nature of physically-instantiated things, property is exclusionary and rivalrous. So by tagging the word 'intellectual' in front of it we imply that it is something exclusionary and rivalrous.”[2]

If we look at intellectual property in terms of 'Intellectual Contributions' can it help us rethink what society is trying to achieve within the institution of copyright? Can it help us form a new regime for rewarding the intellectual effort that goes into the production of a new intellectual work? How would this regime work in practice?

When we think of property we think of a single owner holding possession of a physical object. When we think of contributions we think of more than one contributor to a common cause. It can be reasonably argued that most new intellectual works or ideas are a

culmination of many works that came before. We can see a chain of ideas and thoughts, artists and thinkers, leading up to the new idea or creation and in most cases there are many chains leading to the new intellectual work. (Work: a distinct intellectual or artistic creation [3])

There is also a second set of contributions: those that flow back to the source of the new work after its creation. Often there are financial rewards filtering back to the author. There is also recognition in the form of citations and reviews that focus on the work and these reinforce the author's creative efforts retrospectively, contributing to his or her standing as an authority in the area of study. Thus, the contributions to an intellectual work might be represented by figure 1.

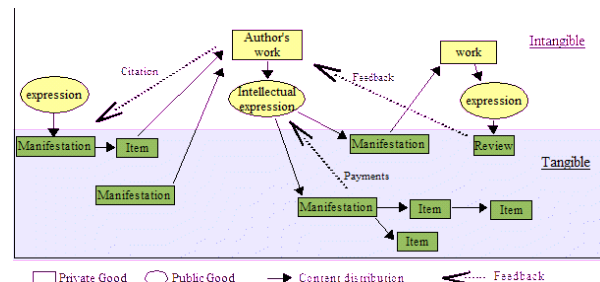


Fig. 1. Intellectual Contributions

As expressed in economic theory and depicted in figure 1, a physical manifestation [3] of the work can be viewed as a private good [4]. A book for instance is rivalrous [5] – only one person can read it at a time – and excludable [6] – other people can be prevented from gaining access to it. The expression [3] of the work, on the other hand, is modelled as a public good [7] that is non-rivalrous: when someone uses the story it does not diminish its utility to anyone else. However, the author's work, the time and effort put into the creation, is shown as a private good. The author only has finite resources that are excludable because work on one project will exclude work on another.

2. Copyright – Following the Contributions Model

Although depicted as a private good the author's work has many contributors and these contributions were supported by copyright [8]. The rules of copyright, which granted the author the sole right to produce and distribute copies, could be viewed as increasing the dynamics of these contribution chains by making more works available to a wider audience. Existing books and papers lead to the author producing a new work and the sole right to reproduce and sell copies of this new work directs funds back to this author to support her efforts. If the author bought the works of her predecessors, this added to the contribution chain. 'Fair use' [9] allows the author to quote previous works, thus adding another link to this retrospective chain of contributions. The 'first sale' [10] doctrine, where the author's control of distribution lapses after the initial sale of a copy (giving you the right to re-sell the copy), extends the contributions chain forward in time from the initial work.

The copyright rules that limit the production of manifestations to the author can be regarded as determining an equivalence between the expression and the manifestation. This artificial linking between the public good expression and the private good manifestation imbues the expression with an excludable quality thus allowing the author to trade their work as a limited resource. Figure 2. demonstrates this linking characteristic.

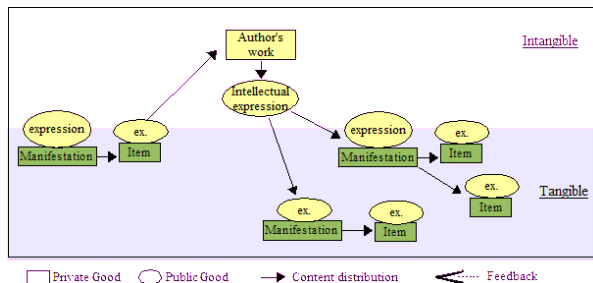


Fig.2. Copyright and Intellectual Contributions

For the past 200 years [11], in our analogue world, the above model has worked well and helped funnel financial contributions to the author to encourage the creation and distribution of intellectual works. Now digital technology has changed one critical aspect of the contributions model: the end result of digital bits flowing through the Internet and computer systems are not tangible [12] as are the physical manifestations of the analogue world. As the manifestation becomes intangible, less of a physical product, it moves even closer to the character of a public good expression. This in turn reverses copyright's ability to make the expression resemble a private good. Both the expression and the manifestation now have public good

qualities with the consequential problems of reliably trading the work.

If we look at the developments in Digital Rights Management (DRM), one of the main contenders for dealing with intellectual works in our digital present and future, we are earnestly trying to maintain the copyright controls in the contributions model by forcing digital bits into a physical straitjacket; trying to force intangible, digital manifestations, with their characteristics of public good, to behave like physical manifestations with their private good status.

2.1. DRM from the Contributions Prospective

The DRM control of works in digital format is an attempt to maintain the 'physical property' aspects of copyright in the digital environment. When someone buys an analogue book they create a new intellectual contributions chain. There is only ever one excludable book in this chain (the first one) and this helps define the monetary value to be placed on this chain. If a digital copy of this book is introduced into a new chain the work can be reproduced indefinitely, easily distributed along the new chain (even in a branching fashion) and these public good characteristics make the value of this contribution chain uncertain. DRM attempts to restore a known value to this chain by limiting copies (making them excludable again). The ideal might be said to be a limit of one copy as in the analogue world.

There are potential disadvantages to this DRM modelling of the analogue world from the intellectual contributions point of view:

- The limit of one copy without regard to 'fair use' could disrupt the citation feedback chain;
- The 'first sale' doctrine, which created a contributing chain, allowing a buyer to recoup some of his contribution while furthering the distribution of the work, could be disrupted; and
- Most significant, chasing the analogue model of copyright destroys the potential advantages of digital distribution. i.e. speed of transmission, access to a wider community, lower reproduction and distribution costs.

3. Rights of Access – A Contributions Model

We have briefly studied how the intellectual contributions model might fairly describe the underlying principles of our system of copyright. The question we now consider is, "Is the continued evolution of copyright, as we know it, and the effort to incorporate DRM into the existing framework the best

way forward or can we improve upon it?” This paper argues that the dramatic changes the digital environment introduces in the distribution of intellectual works requires a re-examination of the intellectual contributions model and we now examine how this might best be supported in this digital world if we are to avoid further restricting the scope of contributions. Is it not reasonable to ask that the feed-forward and feedback contribution chains should be implemented in the digital environment in the most efficient way?

Copyright granted the right of access to intellectual content to the consumer [13] via the proxy of the physical copy (for instance, owning the book). Copyright gave the author the right to receive the contributions from the forward chain via the proxy of granting him or her the sole right to print and distribute copies. However, limitations are put on the rights of the original author (first sale, term limits, fair use) to protect the contribution chain, allowing future authors to quote, cite, etc.

In our new regime, we first recognise that the important private good in the intellectual contributions model is the collaborative effort, the work, that goes into creating a new intellectual product. It is not the artificially imposed private good status of the expression that is the most important. In other words, it is:

- The right of the consumer or prospective author to benefit from the chains of contribution that proceed them; and
- The right of the author to receive the contributions made available by others in the forward contributions chains.

So our first step in this regime that supports intellectual contributions might be to grant rights specifically to every individual and entity in the contributions chain and not rely on proxies and the limitations on the rights of others.

Next we accept that the digital manifestations of the product are tending toward a public good, just like the expression, and should be treated as such.

Having identified the private goods, the creative work, and the importance of the many contributions that go into the work, we want to introduce a means of recognizing and exchanging these contributions.

The solution proposed here is that the rights of every individual and entity in the contribution chain should be registered and any transfer or trading of rights also recorded. Expressions and manifestations, in whatever form, are then made freely available to any of the rights holders. A practical system for recording and exchanging these rights is described in the Distributed

Intellectual Product Rights system in the second half of this paper.

The rights of the various contributors to the collaborative intellectual work could be modelled by a new tangible layer in the contributions model that identifies the rights held by each member of the contributions chain. Figure 3. would represent this new model.

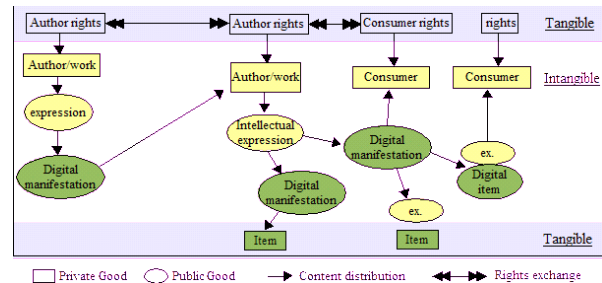


Fig. 3. Rights and Intellectual Contributions

4. Rights of Access – a Practical System

This section briefly describes the characteristics of the Distributed Intellectual Products Rights (DIPR) (Rights Office) system and how it could provide a practical implementation of a rights based intellectual contributions model.

In addition to recording and regulating the intellectual rights to the intellectual contributions, as described in the previous section, the DIPR (Rights Office) system also considers the following requirements to be necessary for an effective scheme:

- Use technology to make the legal route for obtaining the product easier (Quicker, cheaper, no forms, no shops, the thing to do, instant gratification) than the illegal route.
- Help users to identify the product and its creator and the consumer's obligation to reward the creator for using the product.
- Protect the free flow of information.
- Protect the rights and privacy of all parties: creators, artists, producers, distributors, and consumers.
- Make the new system evolve from the today's practices and standards in such a way that it can accommodate all current digital products as well as new formats. If possible, the new system should include existing product identification systems and enhance or extend current intellectual property management systems.
- Use the open standards and interconnectivity of the Internet to maximum advantage.

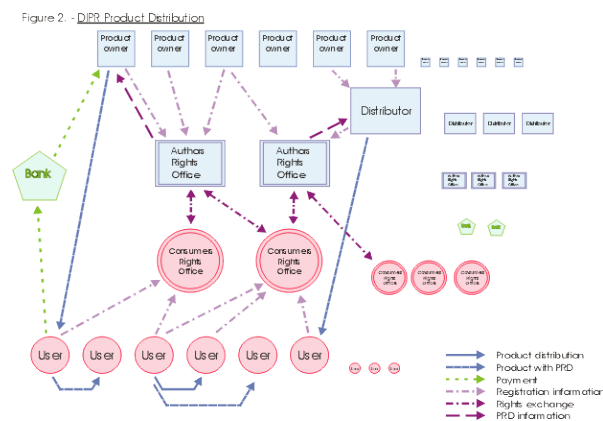
4.1. Distributed Intellectual Product Rights (Rights Office)

In the DIPR (Rights Office) system, all rights to an intellectual work are recorded in a permanent, secure, location on the Internet. The Rights Office System allocates an identifier to each work and further identifiers to any subsequent physical manifestations (copies) of the work. These identifiers are in the form of unique, permanent, URLs. Both authors and consumers will record rights to an intellectual work in this system.

As a right of access passes from author to consumer, the system goes through the following steps:

- Two rights identifiers are created; one for the author, recorded in the Authors Rights Office database (ARO), and one for the consumer, recorded in the Consumers Rights Office database (CRO).
- The ARO and the CRO exchange and record each other's identifiers, thus linking the transfer of access rights to the work. The combination of these two identifiers is known as the Product Rights Descriptor (PRD). Thereafter, any copy of this manifestation will, as it goes through life, contain the unique PRD it was assigned.

After this exchange has been completed, unlimited copies of this manifestation in the name of this registered consumer are allowed, providing that the identifications and the product remain unmodified and intact. Figure 4 shows a schematic of the proposed Rights Office structure for the recording and exchange of rights.



Note some of the characteristics of the DIPR (Rights Office) system. The Author Rights Office

(ARO) acts solely in the interests of the primary rights holder and the Consumer Rights Office (CRO) acts for the consumer. In this way the rights of all players in the contribution chain are held independently with mutual recording of each other's rights thus maintaining privacy and independence. Every manifestation of the work will have two identifications (URLs) associated with it that will uniquely identify the entitled rights holders, the intellectual work, and provide links to metadata but to no other information.

The identified digital manifestations of the intellectual products will also be regulated, but in a concise way so that it is clear to everyone what can and cannot be done. For example:

- The intellectual component of the digital product is not allowed to be reproduced separately from the Product Rights Descriptor (PRD). This rule would be mostly self-regulating as it will be legal for anyone to possess a properly identified item, so why would anyone make the copy illegal by removing the PRD?
- The consumer who owns an identified manifestation of a digital product may pass on a copy to another consumer, but this third party has no rights over the physical digital product, only the unregulated right [14] to access the intellectual component. This third party has no rights to make copies, pass on the product, or do anything else with the item.
- The digital product can be converted from one digital medium to another providing both media support the PRD structure and the intellectual content and its PRD are not modified in the process.

The legal change in priorities between copyright and the DIPR (Rights Office) system can be summed-up as follows:

- Copyright allows unlimited distribution of a single item but has strict limits on copying.
- DIPR (Rights office) allows unlimited copying for all rights holders, including rights-holding consumers, but no distribution or copying for any non-rights holders.

4.2. Advantages of the DIPR (Rights Office) System

Advantages of the DIPR (Rights Office) system:

- Clearly defined rules for using identified digital products.

- Registered consumer rights to intellectual products.
- Protection of all personal information.
- Protection of the common right of access to intellectual works for education and social purposes – anyone is allowed access to a properly identified work.
- Automatic and permanent archives of intellectual works.
- Some integrity rights [15] are assured with the link to an unaltered copy of the original
- Avoidance of technically complicated and expensive centralised access control systems.
- No need for systems of indiscriminate taxes on digital products and services.
- New marketing strategies for the rights holders who can form peer-to-peer partnerships with consumers and allow for P2P distribution of content.
- A technical framework to support all other rights management and metadata systems.
- No need for all device level control of content thus reducing infrastructure costs.
- The need for complex encryption and rights management protocols at the data level is vastly reduced so many compatibility and competition issues are removed thus keeping an open market for devices and technological innovation.
- All exchanges of rights are permanently recorded and can be verified at any time.
- Legal and technical regulation of rights exchanges are focused at the 'Office' level not the individual consumer or device level, making enforcement much easier, less expensive, and more realistic than device level rights control.

Specific advantages of the DIPR (Rights Office) system for the consumer:

- The consumer can demonstrate legal ownership of intellectual products.
- Consumers will be able to manage their rights to these products.
- Replacement products are always available.
- Less likelihood of a virus in an identified product.
- There are no restrictions on when, where, or on what playback device can be used
- The authenticity of the work is ensured.

4.3. Business models and usage

A new commercial environment is fostered by the DIPR (Rights Office) system, allowing numerous opportunities for the rights owners to promote sales of a product, even though consumers holding legal identifications to the product will be allowed to distribute copies. The two identifications in an PRD identified product which is registered to both the creator and the consumer create a peer-to-peer link directly between this creator and consumer, the important link between contributors, and allows the two parties to strike a deal which could take many forms and be of mutual benefit . Such as:

- Creators could provide rebates on future products, thereby cultivating good clients.
- Consumers could earn a partial refund by recommending a product to another consumer. When the second consumer purchased the product, the identification of the original consumer would provide a mechanism for a referral bonus. This recommendation process could be a valuable tool as both the author and consumer have an interest in finding another consumer willing to buy.
- Updates and new versions could be provided automatically.
- The creator could provide a physical product available only to licensed consumers or give identified consumers of products a chance in a lottery for live concert tickets for example.
- Identified consumers could be allowed to vote for or suggest future product enhancements.

It has to be recognised that pricing policies will also play an important role in the success of these strategies, as would easy-to-use, automatic, payment systems with low transaction costs.

Third party illegal trading of an intellectual product, the circumstance which really harms the author, consumer, and society as a whole, will be easily identified and relatively obvious to any consumer or official. For example, trading rights to an identified product without issuing a new PRD with one of the identifiers registered in the name of the new consumer would be illegal and obvious as would trading a PRD identified product with a false PRD. A legal PRD and its owner can be verified instantly through the administrative office structure on the Internet and a consumer is unlikely to pay for an illegal copy when he could probably obtain a free copy under his common rights to any intellectual product.

Removing all traces of the PRD from the intellectual component and then trading it will be the most difficult to recognise because it could be difficult to verify if the product was initially in the DIPR (Rights Office)

environment. The penalties for this abuse of the product should be severe because it is cheating both the author and the consumer and undermining the entire DIPR (Rights Office) system.

If using the DIPR (Rights Office) system for trading intellectual products became the norm this type of abuse would become easier to detect because it would be unusual to have an unidentified product.

4.4. DIPR (RIGHTS OFFICE) – The Way Forward

From the lay point of view, the DIPR (Rights Office) implementation of the intellectual contributions model would not require a major upheaval in the intellectual property system; only a gradual transition to the new regime. The following steps might achieve a relatively risk free approach to the digital intellectual contributions system of the future:

- Research into the costs of implementing the 'Rights Office' structure and supporting the persistent identifiers.
- Development of trial protocols and working Rights Offices.
- Study of the economics would obviously be useful as would a review of its legal status under existing laws.
- Just as the Creative Commons promotes a distribution model that uses licences to allow copying and distribution by consumers, while still guarding the author's copyright, the DIPR (Rights Office) system could use licences to do the same for the initial implementation.
- Even when the DIPR (Rights Office) system becomes fully operational and is legally supported as a new intellectual contributions regime, copyright could still be available for analogue work. Authors and primary rights holders would have the choice of regimes for the distribution of their works.
- A public education programme would be beneficial.
- The dual, secure, regulated structure of the 'Rights Office' system would provide the ideal framework for a payments system that could funnel funds back to the rights holder. Development of these 'Office Banks' would form another important part of the development programme.

5. Conclusions

Copyright, I contend, is founded on a contribution model of by-directional interactions between multiple authors and consumers of intellectual products. This paper proposes that we rethink our approach to

regulating intellectual contributions from first principles.

Traditional copyright law was not designed for the digital age where, as opposed to something like a book, the physical limits of a digital manifestation are not easily defined. By definition, copyright regulates the physical copying of the end product, the manifestation, not the use of the intangible intellectual content. The Distributed Intellectual Product Rights (DIPR (Rights Office)) system focuses on regulating the creative work, itself, and identifying the intellectual content.

DIPR (Rights Office) recognises that, in the Intellectual Contributions model, the creative efforts of the author are the important private goods and that the author's right to allow contributing consumers to share access to this rivalrous and excludable product forms the fundamental aspect of the economic model. The product of this collaborative effort produces a manifestation of the intellectual work that is a public good. DIPR(Rights Office) accepts that ALL manifestations of the intellectual work are a public good and does not attempt to make them rivalrous or excludable. It does, however, insist that the contributive creative effort is recognised in the form of the Product Rights Descriptor (PRD).

The DIPR (Rights Office) environment is created by two sets of databases on the Internet with the interests of the creators represented in the 'Author Rights Office' and the consumers rights represented in the 'Consumer Rights Office'. Persistent resource identifiers, which make up the Product Rights Descriptor, identify the rights of these creators and consumers.

The system regulates the distribution of digital products, provides clear rules for the use of these products, registers consumer rights to intellectual products, protects personal information, protects common right of access to intellectual works, creates an automatic and permanent archive of intellectual works and instigates new marketing strategies for the rights holders.

As the executive summary of the Digital Dilemma states:

"Given the challenges to the copyright regime posed by digital information, the committee concluded that alternatives to a copy-based model for protection of digital information deserve consideration..."[16]

For our digital future, this paper investigates the alternatives and the Distributed Intellectual Product Rights (Rights Office) provides a way forward.

Nicholas Bentley, April 2005

Further information on the Rights Office System described here can be found at:

<http://www.commonrights.com>

Document Product Rights Descriptor:

<http://www.commonrights.com/RightsOffice/ARO-125.htm#ARO1> ;
<http://www.commonrights.com/RightsOffice/CRO-400-CRO1.htm>

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- [10] http://www.webopedia.com/TERM/F/first_sale_doctrine.html
- [11] <http://www.patent.gov.uk/copy/history/>
- [12] Tangible - capable of being touched, Webster's
- [13] Consumer - refers to an individual or organization which is making use the intellectual work.
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