

# Assessing the Contribution of CC, Foundational Inquiry

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## Used terms and abbreviations

**CC** – CC

**IP** – Intellectual Property

**PD** – Public Domain

**Supplier** – the entity that holds the legal right to license a work, the potential licensor.

**Consumer** – the entity with the motivation to use a work, either creatively, actively or passively. These are the potential licensees.

**Creative consumption (consumers)** - a consumption of a work as a resource in the creation of another work. These uses are legal for works licensed BY, BY-SA, BY-NC, BY-NC-SA, and works with a CCo dedication.

**Active consumption (consumers)** – this type of consumption changes the metadata of the work: for example, active users may be distributing the work to others, adding layers of comments and other metadata to the work. The essential distinction between them and creative users, as they are defined here, is that these users make no changes to the actual *content* of the work itself. Stated differently, passive users do not create derivatives or use the licensed work or parts of it as a resource. These uses are legal for works licensed BY, BY-SA, BY-NC, BY-NC-SA, and works with a CCo mark, like Creative uses, but also BY-ND and BY-ND-NC.

**Passive consumption (consumers)** – a direct consumption of the licensed work with the pure intention of individually enjoying it as it is. All the CC tools permit this use.

**Creators/Active users** - creators are defined here to include operators who partake in the production of works in the fields of art, education, science and collaborative works. For this purpose, creators rely on inputs from former creators.

**Free Culture Organization** – a term used here to refer to enterprises that operate with the purpose of promoting Free Culture. CC is such an organization.

**Free Culture** – social operations, which take place while relaxing the constraints of the existing Intellectual Property regime for the purpose of encouraging sharing and collaboration between actors in the cultural space.

**PD** – used here to refer to the space of works that are unprotected by any form of intellectual property, domestic, regional or international.

**Free Works** - works that are *easily recognized* as either PD works or as copyrighted works that are licensed under a *free* license. This means that these works can be consumed, modified, copied and redistributed in modified or unmodified form either without restriction, or with minimal restrictions only to ensure that further recipients can also do these things. Works in the CC space that are labeled “free”, are works licensed under BY, BY-SA, or marked CCo. Works licensed under a version of either an NC or an ND license are contestably part of this space, as they do include more restrictions on the way that the work can be used and yet they are more part of this space than works with only the IP framework governing them.

**Licensor v. Legal Author** – the prospective licensor is the entity with the legal power to attach a license to the work. This entity is not necessarily the legal author, since the legal author may have passed the licensing rights, in whole or in part, to a licensor. This document usually considers the value that CC creates for the licensing entity while ignoring the fact that the licensor might be of two categorically different entities. In short, the advantages to legal licensors that are not legal authors is found in advantages to processes

which they partake in that are meta-creative, whereas legal authors enjoy both types of advantages, meta-creative and creative.

**Affirmer** – the affirmer is the entity that applied CCo to the work.

## In General

This paper lays down the foundations for the evaluation of CC as a multi-leveled enterprise with the general intent of inviting scholar and professionals to start thinking more rigorously about how and what extent CC as a prominent enterprise contributes to society. Evaluating, or *Measuring the value*, here, means exposing the breadth and depth of the contribution of CC to the aggregate welfare, as a general matter, and specifically, to the advancement of CC's goals - to enhance creativity, innovation and collaboration. This is to be done in a quantifiable manner where possible and in a qualifiable manner where rigorous measurement is impossible, difficult or fails to convey the full scope of the benefits that CC amasses.

Indeed, like for every organization whose purpose it is to support a range of human activity and related interactions, it is crucial be able to ascertain *first*, that CC does in fact promote what it is set to promote, and that it is efficacious at that, and *second*, that these pursuits predominate the wide variety of alternatives. In other words, since there is more than one way to advance its target, CC should be able to assert that it follows the shortest and the simplest route. Otherwise, although its actions are generally positive they are directly detrimental to welfare by preventing superior usage of the spent resources.

Therefore, a primary step along the way for to the accomplishment of this dual purpose is to identify the environment within which CC operates as well as the set of endeavors within it that CC aims to facilitate. Against this baseline, the measures of value will be defined and calculated, as would befit efforts of quantification which are essentially comparative and relative to preset targets and environmental conditions.

Notwithstanding the goals of this project, it is important to remember that as a general matter CC is a clearly beneficial enterprise. Indeed, while delving into the data, one should not lose track of the fact that CC is advancing its own expressly beneficial goals in a very demonstrable way:

Unmistakably, CC is providing **Robust, scalable, widely adopted legal tools** by sustaining a **stable platform** of tools which are being used in a way that directly corresponds with the specific intent of the organization. Key to these achievements is CC's successful utilization of **technology that facilitates open licensing and increases the use and value of openly licensed works**. Undoubtedly, CC is operating a **global social infrastructure for leveraging communities and facilitating knowledge diffusion about open licensing**. Likewise prosperous is the encompassing pursuit of CC to promote **Free Culture** by nudging norms, legal and non-legal, in its chosen fields of operation.

Moreover, CC has time at its corner as a trustworthy witness of its value contribution; after all, CC has been around since 2001, and its goals, framework and legal tools have been very stable. To top these, the prominence of the organization, and the reliance on its framework and tools has only increased. Thus, the positivistic argument is proof of the general contribution of CC, since it is clear that in the market for license frameworks, as well as in the institutional market and the norm sphere, CC has won a clear role.[\[1\]](#)

Duly noted should be another related fact: Some endeavors are by nature immeasurable or extremely hard to measure effectively.[\[2\]](#) Evidently, these types of contributions pose a challenge to the quantification enterprise because their value is incommensurable. Yet despite this attribute of theirs, they remain very much part of the total CC-induced value and thus should be accounted for properly to ensure the soundness of the results. Consequently, however rigorous the value quantification enterprise, accounting for abstract evaluations of CC-induced benefits as well as obtaining a measure of **intuition** with respect to these benefits would remain necessary. Considering these more amorphous benefits might give the impression of a less studious effort, yet in fact, failing to consider them would degrade the output substantially and frustrate its usefulness.

## **The Importance of this Project**

This project is crucially important in many different respects. First and foremost, it is an unprecedented effort. In fact, it is the first time that anyone has begun thinking rigorously about the value that is being created by a Free Culture Normative platform as multifaceted as CC.

Attempts which are most reminiscent of this one have been made to gauge the contribution of Open Source platforms, and these are naturally restricted to one cultural endeavor, namely, the creation of software and hardware platforms. Hopefully, this project can spark novel interest, which would fashion a fresh field of thought surrounding a neglected topic.

More pragmatically, maybe, conventional wisdom about how every organization *should* operate compels that it would be guided by principles of utility generation. CC is no different in that respect, since like any other enterprise it has a clear *raison d'être* to be fulfilled efficaciously.

To be more specific, the fact that CC interacts with a variety of entities, among which are policy makers, other organizations, funding parties, users of its platform, its network of affiliates and the general public, suggests that it needs to communicate what it sets out to do and the strategic and tactical logic it applies as it progresses toward those goals. Indeed, a very natural way to approach this task is through the analysis of CC's value generation. From an internal organizational viewpoint, it is a much easier to tailor policy while being able to rely on data with respect to potential impact; Especially since its resources are limited, CC could reap clear advantages from a capacity to compare the value that any route it takes is expected to generate with a reasonable level of certainty.

To summarize, this analysis is of external and importance. Its external importance has to do with communicating to funding entities the prospective benefits pending investment, influencing the policy realm by representing prospective benefits pending policy change, directing usage of the tools by pointing users to prospective benefits to be derived from usage and adding to the notoriety of CC as a leader in its target environment. The internal importance of the analysis, has to do with efficacious planning of future organizational steps, tactical and strategic (long term), and cutting down on operation costs(short term).[\[3\]](#)

## **The Three General Contributions of CC, Underlying Theory**

One of the ways to approach the evaluation project is by methodically separating the areas of operation of CC. This is important for the purpose of facilitating this task, considering that CC is an organization, which is active on many different normative levels. The attempt here was to divide

the CC enterprise in a way that will allow sufficient encapsulation of the activity range so that it can be effectively analyzed. This part lays out the description of the three main pillars of contribution of CC, which are used here as the baseline for the analysis. They are as follows: (1) CC'S institutional benefits. (2) The aggregate benefit of the CC tools and the CC platform (micro to macro transactional benefits) and (3) CC's benefits as a weight in the norm space.

## (1) As an Institution

Many Economists have pointed out that the efficiency of modern markets is made possible **by the existence of a stable and certain legal framework**. CC is providing such an institutional framework, which facilitates cooperation between actors and allows social production markets to be optimized and effectively sustained.<sup>[4]</sup> Indeed, it is a primary goal of CC to advance the Intellectual Property environment by balancing the set of requirements that are related to the existing and potential interactions governed by it, and in this way to promote the interactions taking place under the cadres of its target fields. In other words, by providing a solid framework, CC is doing far more than just to optimize a particular interaction between users, but rather it is supporting new forms of creation and interaction.

Essentially, this type of contribution can be thought of as one which is placed at the gap between CC's second pillar contribution described in the next section, facilitating numerous transactions among a diversity of different actors, and CC's third pillar contribution - as a *stimulant* in the norm space. Yet there are many operations of CC whose induced value can be logically placed under this rubric of the institutional pillar. For example, CC supports not only simple transactions in different markets, but also **the conducting of non-market transactions**, between communities, policy makers as well as **complex transactions** that do take place in markets like groundbreaking activities that do not have applicable statutory normative frameworks as of yet.

Examples for all of the latter include funneling activities like the open science project, CC activity in the realm of open education and promoting CC licenses' usage in new spaces like the NGO space. Other activities are the standardizing activities in the Open Society space, the promotion of the semantic web for open society enterprises and the enhancement of search and authentication capacities for open licensed works. Much like the former areas of contribution, this one requires a

separate methodology for its inspection, so that for the CC model or governance structure can be compared with other ones, existing and plausible.

Following is a description of distinct areas of institutional contribution. First, the stability of CC as a framework, its continued support of its licenses and their global popularity all enable the standardization of the license framework which in turn has many beneficial implications; namely, the creation of standards that apply across the Open Culture community, creating not just a motivational closeness between its actors, but also a mutual reliance on the same legal framework which adds to the normative nearness and allows collaboration where there is potential for it. The evaluation of this beneficial enterprise is conducted through the evaluation of CC's contribution to collaboration as well as to the creation of novel genres.

Interoperability is yet another a very important capacity of a licensing framework so as to allow it to achieve maximum value contribution. Indeed, CC's ability to exercise its influence among other open culture organizations suggests that it can provide its downstream users with continuous interoperability guaranteeing their ability to mesh together works licensed under licenses of different platforms.

Third, CC as an organization has been able to fashion itself as a brand. This has several beneficial implications: first, it is easy to identify Open works through the identification of the CC mark, which reduces search costs substantially. Second, the recognizability of the CC mark has an educational effect in the norm field, i.e., it promotes CC's ability to contribute under the 3<sup>rd</sup> pillar – to the inducement of actors to become free culture activists by allowing free works to be recognized all around them. Third, the prominence of the mark sends a powerful quality, or rather a character signal, which exposes the particular nature of the work to be freely used as a resource. Indeed, the quality aspect can go both ways – in many fields the CC mark may actually signal low-quality works. And yet their quality as resources persists, and as long as the optimal outcome is achieved, this is just a cost that needs to be accounted for.

Through its global activities, CC is able to exert its Institutional power both in domestic markets and in global markets. The ability to allow for global consistency of the framework is quite unique to the organization, and extends the actors ability to rely on the cross jurisdictional consistency,

stability and augments CC's capability to create standards that apply across the board. Of course, this has implications that pertain to the third pillar as well, such as the ability to fashion global IP norms, etc.

## **Inherent Costs, 1<sup>st</sup> Pillar**

One of the side-effects of the institutional infrastructure provided by CC is the further empowerment of the author.[\[5\]](#) Indeed, CC users are very much aware of their singlehanded capacity to dictate the terms for future users. This means that the offering of a collaborative framework has the adverse affect of investing the author with even more power than what the IP environment naturally provides him with.

Another effect which CC induces is that it promotes lay users. This means that the outputs are potentially of lesser quality than proprietary outputs.[\[6\]](#) Again, this has both positive and negative value, and the goal of the value assessment is to show optimization. CC's strong brand means that it is sending a quality signal, however, in some cases, it may be a signal of depraved quality which may depress the chances of good quality CC'd works to gain traction. Another cost that is tied to the same category is the possible Brooks law equivalent to Free Culture, suggesting that too much collaboration has detrimental results.[\[7\]](#)

Third, many scholars and free culture activists have debated the moderate solution chosen by CC which includes as part of its platform tools that allow downstream users to appropriate their works, even if they rely on free resources.[\[8\]](#) This means that CC is not preempting the propertization of the commons directly.[\[9\]](#)

Another cost is free riding, which is inherent to every market environment where some resources can be used for free. The issue here is not that the use of the resource is against the interests of the holder of the IP right in the resource, but rather that the ability to rely on existing resources eliminates part of the need to innovate individually, which entails detrimental results.

Fifth, CC currently maintains eight different tools, which suggests some degree of internal proliferation which has some negative implications such as decision-making costs, and less

certainty.[\[10\]](#) In addition, it obviously impacts external proliferation, meaning the number of legal tools for the regulation of free works.

A sixth inherent cost is that the construction of the CC licenses creates no obligations for the licensor, meaning that the licensee can never be fully protected or certain of the legal status.

Despite the fact that CC prevents many of the inherent costs of the IP framework, some costs are not completely prevented. One of those costs is finding out what is the **reasonable** manner for attribution. This is a remaining ambiguity, which has to do with the fact that this is not part of the legal code of either of the CC tools.

Some writers have suggested that the CC tools are not enforceable. This is a malediction of most of the free culture platforms. And yet recently there have been some positive signs suggesting the enforceability of these licenses.[\[11\]](#) Indeed, some of the tools have better chances of enforceability than the rest, but the chances will increase across the platform.

One of the gravest costs has to do with the limitation of every private license framework. Such a framework will never gain the same influence that a public arrangement can have.[\[12\]](#)

## (2) The Transactional Contribution

### a. Tools

It is hard to dispute that CC contributes to transactions in the fields where it operates. Since evidently, CC furnishes the work's *supplier* with the ability to easily attach a digital pin to it, which clearly conveys the chosen customized definition of the legal permissions for prospective uses of the work against the backdrop of the legal environment.

As will be presented in more detail in this document, interactions are uniquely benefited by CC tool support. In the aggregate, these micro-contributions comprise the accrued value of CC under the 1<sup>st</sup> pillar, after the detraction of the interrelated costs aggregate and the value of the most efficient alternative set would produce. [\[13\]](#)

## **b. Platform**

Now there is a separate sense in which CC contributes under the 1<sup>st</sup> pillar, and that is through the complete gallery of its tools. This contribution of the platform is distinct from the institutional contribution (the 2<sup>nd</sup> pillar) in the sense that the emphasis is on the contribution of the full platform to the transactional space.

First, there is the issue of CC's ability to balance optimally between the willingness to provide a highly customizable set of tools, which will allow for perfect accommodation of the requirements of a particular prospective licensor, and the harm, which is created by extended proliferation of tools. Namely, the harm to standardization and to certainty. This is what ensures CC's success as a framework, which it achieved by a long process of trial and error. As the outcomes of the evaluation process will prove, CC has been able to allow its licensors and licensees to enjoy increased flexibility while maintaining the advantages of a legal platform offering boilerplate tools.

[\[14\]](#)

Second, there are benefits that are interrelated with the existence as a platform instead of as a set of tools. Part of it is the flexibility and clarity that stems from the particular way the licenses are constructed, namely the fact that they rely on modal building blocks, a subset of which is part of every license.[\[15\]](#) This, allows for optimal design, since the licenses need to be constructed just once, and it allows for enhanced ability of the users to understand the licenses and the difference between them and contributes to the subsistence of the platform and hence, to its stability.

One of the things that CC strives for is to enable its users to tweak the normative environment of IP to fit their needs. This can be achieved only by relying on the substantive nature of a platform.

[\[16\]](#)

### **Inherent Costs, 2<sup>nd</sup> Pillar**

These will be discussed at the part where the benefits of each single tool is discussed.

### (3) Contribution in the Norm Space

#### Contributing to The IP Regime

As an organization, which is active in the sphere of creation and its regulation, CC influences this sphere by weighing in on the evolution of its norms.<sup>[17]</sup> There is a distinct difference between this and the other two pillars of contribution; What the other two perceive as a backdrop or a baseline which is an independent factor existing as the environment to which CC sets itself to contribute to, is under the third pillar the actual target field which it sets to influence.

Add that there is success from that less protected space

To be more explicit, this area of contribution is to the dynamic evolution of norms. The norm space is fraught with multi-directional influences. Therefore, CC, like any other entity operating in this space is only one intervening factor out of many, which means that its ability to predict the extent of its influence to affect existing norms in a given direction is very limited.

Yet CC is operating in this space with the clear intention of shaping it in a way that will correspond optimally to the first order motivation, which is to induce an optimal level of activity in each field of operation. This in turn is based on the assumption that those norms ought to evolve to fit with their subject matter and that at any given moment they can be sub-optimal.<sup>[18]</sup>

Obviously, this is an area of contribution which is resistant to evaluation, not only because of the aforementioned challenge, but also since it has to do with the optimal design of the foundational conditions for creation. This is particularly trouble-ridden because it obligates making substantial predictions with respect to a broad set of future activities that will rely on the proposed setting. Therefore, major changes have been proposed and effectuated in the norms governing this space without any attempt at backing the changes with numbers.<sup>[19]</sup> In correspondence with some of these changes, and in contradiction with others, CC can easily point to its abstract contribution in this space. This is important to highlight side by side with the value estimation in order to ensure that the CC induced value in the immeasurable space is fully accounted for.<sup>[20]</sup>

In general, the value in this field is in the contribution from CC acting as **Counterweight** to the continuous trend of expansion of IP rights by furnishing tools that allow actors in many IP-

protected fields to **vote with their feet** – and in that to show that there is **actual demand** for a less constraining bundle of rights, one that is met by CC tools.

Despite the fact that CC is among just a few that attempt to nudge the norms in the direction of extended freedom for a range of downstream uses, it is certainly not the only organization at that.

[21] And indeed, as has previously noted, in order to ascertain that CC is in fact generating objective value, it needs to be proven that it is comparatively beneficial instead of merely expending resources, which could have been put to better use in the same space of its operation.

Yet even before a more rigorous analysis takes place, it is easy to identify advantages to the CC enterprise that make it a particularly apt actor in the norm-nudging sphere: Most predominantly, CC, in clear contradiction to other organizations that promote free standards for creative endeavors is a global network with a worldwide affiliates operating from different geographical locations. As a result it is able to be singularly effective in affecting the norm horizon globally, internationally, regionally, nationally and inter-communally. In fact, in some locations CC is found preceding the evolution of an Intellectual Property regulatory regime, which suggests a clear influence in the norm creation space.

CC's ability to be globally influential is assuaged by its singular ability to connect actors who want to allow an option for laxer IP rights. In other words, CC is able to rely on its network of affiliates to boost its power to bear on norms, through a synergetic effect.

Another way in which CC is distinct is its operation across fields, whereas many of the other Free Culture organizations are restricted to a single field.[23] This means that it is capable of creating cross-field norms by inducing collaboration between extremely varied actors. Naturally, when the demand for change stems from a variety of distinct sources, there is a case to be made that the general regime needs to budge.[24]

Now other than its ability to affect the policy space by acting as an affective advocate, CC is capable of directly affecting the space by promoting its platform of tools which essentially shifts the normative environment from being property-right based to one which is based on liability rules. This implies that it also contributes to the normative sphere by providing a framework, which facilitates the unbundling of intellectual property rights, so that they can be used efficiently

in the information environment.[\[25\]](#)

The latter fact reveals that CC is operating in a space which is virtually missing a substantial prior normative framework to govern it: by operating “In all media and formats”, an advantage of the CC framework over IP systems constrained in Subject Matter, CC is supporting to new mediums which are rapidly evolving.

Another sense by which CC influences very extensively the infrastructure of IP is that CC is not making a distinction between the different actors. By providing tools which fashion blanket terms for all downstream users, it refashions all of them as equal. This changes the ballgame of creation whereby the ability to consume the work is uninfluenced by the ability to expend the resources that are necessary for interacting with the licensor.

One of the choices, which CC has made, is that it operates in the norm space as an institutional framework. This suggests that it contributes in the space not as a revolutionary, which induces the outcome by not accepting the existing frameworks, but rather as a moderate, that builds upon regime and uses its rules in order to change it from within. Since there is space in the norm sphere for the operations of organizations of both types, when gauging the contribution of CC in this space, it is important to compare it to organizations like it, instead of to organizations of the other sort.

### **Inherent Costs, third pillar**

Being perceived as anti-IP is an inherent cost of the CC enterprise under the 3<sup>rd</sup> pillar. From another direction altogether, choosing the moderate’s path undercuts the ability to achieve the results of the revolutionary or of the extremist and prevents CC from taking advantage of a social movement’s zeal.[\[26\]](#)

## ***Value, Welfare and the CC enterprise***

Not least of the challenges of estimation is that the creative fields in which CC operates, as a tool, as a platform and as a policy weight, are not naturally prone to analysis using quantifiable metrics. This is partly because the outputs produced in each of these environments – creation, education,

basic science, collaborative endeavors - are not easy to monetize. Yet the difficulty in making these estimations in a way that will be consistent with a welfare-directed analysis does everything but suggest that these fields do not contribute substantially to welfare and that CC extends these welfare benefits. Notably, even in the more fuzzy realms for value estimation, there have been efforts of a more rigorous attempt of value analysis, and it is these efforts that are analyzed here for the purpose of gauging the **incremental benefits accrued by CC.**[\[27\]](#)

In addition, there is another reason for the frugality of value analysis efforts, which is related, to the sense that many share that art, culture and collaboration are socially favorable in a way that is *suitably* intangible and inconcrete. The same source produces the belief that human efforts need no external promotion because they are internally driven and thus need no external boost to be properly motivated. Yet even if there is something in the former presumption, it has definitely proven itself to be inaccurate. First, creators in the relevant fields operate within society and are in constant interaction with it, affected by signals, its demands for input and its production of creative output. Second, these creators are clearly aware (as well as intend) that their production process will produce outputs that would be in some potential set of interactions with society. Clearly, the breadth, depth and design of these interactions matter a great deal to these creators. Therefore, it is likewise clear that their reasonable *expectation* with respect to these downstream interactions instructs their creative process from its very rudiments. The ensuing dual conclusion is that (A) creators can be motivated to share more or less, to create more or less and to invest more or less creative effort in their works. (B) Importantly, this is the case not only with existing actors, but also with distinctly *new* entrants. Some of the latter are likely to produce what are decidedly *new* categories of works if they deem it worth their while. On top of these two groups, (no pun intended), all these fields of creation involve what are clearly financially motivated operatives. Since this is the case, even if the actors who are part of the first two groups are not internally motivated by such market inducements as the legal environment designs them, they may be led to underproduction if the control over downstream uses of their work is taken out of their hands by actors from the third group, because they have no easy way of retaining it.

Unlike consumer goods whose contribution, we can choose to believe, is more or less translated to their price, the quality measure of the CC subject matter outputs is a much richer attribute that

requires careful analysis. This analysis is complicated further by the expansive variance of the outputs and the fact that these products' value itself changes constantly as it is a derivative of the encompassing dynamic environment.

Yet another challenging factor for CC's contribution evaluation is that cultural output is a field of operation where CC is truly providing new legal underpinnings for several enterprises that are decidedly new. In this sense, CC is treading a path, which was never before pursued when it is making its estimation efforts.

This in turn means that the value measures of these activities have not been explored and CC ought to create the full framework for analysis, which includes fixing the proper measures and evaluating the nature and extent of collaboration that would have existed without CC. Among the latter, CC will need to **include the range of plausible substitutive platforms** and organizations that might or might not have filled this void in lieu of CC.

Needless to say, CC is operating in different fields, each with its own relationship to the value question. For example, despite the disparity between open education and open science they share a similar characteristic relevant to their evaluation: their outputs are foundational in the sense that they provide the basis for a capacity to produce later outputs that have a clearer relationship to the value question. This is because the later educational and scientific outputs are usually translated into products and services, or to other forms of outputs that have a market value, like a salary. This in turn suggests that part of the contribution of CC to these fields is further complicated due to a materialization lag. This in turn suggests that the contribution of CC to these endeavors is twofold: the first part of it is the direct influence to the enrichment of the spaces with more numerous, distinct outputs of higher quality, a contribution whose materialization is very distant from the point in time when the CC license has been applied. The second part of CC's contribution to these pursuits is to the basic enterprises themselves as inherently (not just vicariously) important areas of activity.[\[28\]](#) In and of themselves these are efforts of collaboration that are worthy for their creation of a culture of sharing in each of these pursuits as well as for involving more entities while cutting down on the repetitious activity. In truth, one could suggest that these are not inherent advantages of OER and basic science, but rather a way to refer to outputs that are so distant that we have no way of discussing it any other way. Yet, whether it is

the former description which applies or the latter, these contributions of CC should be treated separately, to match the standard way the contribution of these fields is and ought to be discussed.

When it comes to the general field of education, there has been a lot of effort in the realm of labor economics to create metrics that will represent the value of different expenditures, such as the marginal value of a year of education. The fact that education requires a lot of organized investment, results in many efforts that are conducted to ensure that the resources are optimally expended. It is to these efforts CC relates when it is attempting to assess its own marginal contribution to Open Education. Basic science has also been evaluated in welfare terms for numerous purposes despite the intricacy of the analysis. The question of value has been interesting to many operatives in the field since it requires vast investment by both private and public entities, and also because it is a clear precondition to future economic output, as the single precondition. This means that the set of measures that have been adopted by researchers should be relied on by CC in order to represent its own incremental contribution.

When it comes to the field of Informational Products such as Wikipedia, Wikimedia, How-to's, Blogs, Manuals (software and other), governmental and nongovernmental information and databases, there is an inherent difficulty with conducting value assessment. The hardship is partly the result of not being able to rely on an aggregative approach, because by nature, these enterprises are results of a gradual accumulation of small contributions. Furthermore, tracking usage for value estimation is again very difficult, not only in the general sense in which it is hard to estimate the extent any resource has contributed to a downstream enterprise, but also since informational aides are usually used haphazardly and in numerous undocumented instances, which are hard to trace inside the newly created work. Still, no one seems to contest the value of encyclopedias or of vast repositories of readily available data, despite the difficulties of measurement which have now been outlined. Thus, CC can treat the general question of value as a given, and rely on this presumption while analyzing its incremental contribution to those repositories of knowledge using the same terms and metrics to represent its ability to augment the contribution to these data pools, in both quality and quantity and expanding the passive use of this pool. Still, there remains the caveat that as a general pursuit it is hard to tell whether it is

optimal in terms of what it sets to achieve. However, until a general effort to cull the general contribution of these efforts produces results, CC is constricted to its incremental contribution to these operations, as it leaves unanswered the question of how this translates to real life welfare implications.

The former description is intended to demonstrate that the general fields where CC is active have a complex relationship with the value question. However, CC cannot be content with the **fuzziness** of its target fields serving as an excuse to avoid undertaking the rigorous evaluation process. Indeed, it may very well be the case that art and culture in general are beneficial in a very abstract sense and even that it is the quality of abstractness which is the source of their cultural importance. However, CC is not an endeavor comparable to the enterprises which it is set to facilitate as a normative platform. And since it is an organization with normative ambition and with clear steps that lead to it, CC can and should come up with a set of measurements which it uses to unfurl its value.

To summarize, CC supports enterprises which are clearly part of a major cultural and economic phenomenon, all with clear welfare contribution. To the extent that each has existing metrics of evaluation, CC uses those in order to analyze its incremental contribution. In the cases where these metrics do not exist – for example, for endeavors which are usually not thought of in these terms or for endeavors that are only just budding due to the intervention of CC, CC creates its own metrics.

## **Macroeconomic Measures**

Quite a few grand projects of evaluation have used standard macroeconomic measures in order to assess contribution to overall welfare. These widely used measures are set to estimate the economic output of a country and therefore seem to be natural for value evaluation in any given case. The question remains whether these measures are suitable for the estimation of either or all of the value pillars of CC, whereas two out of the three seem more prone for analysis using macroeconomic measures. Indeed, CC's operations in the norm space and as a platform seem more likely to correspond with a macro-level analysis, whereas CC's contribution in the transactional space appears to be less of a match with these types of evaluations. Still, in the

aggregate, the micro-contributions of value which CC accrues through individual uses of its licenses, brings the transactional pillar to a level where it has the potential to be adequately analyzed in broad macroeconomic terms like the two other pillars. Thus, the next sections will consider the general aptness of these measures to the analysis of CC' contribution, instead of merely to particular aspects of it.

It has not evaded us that many akin enterprises of evaluation have relied on these macroeconomic measures. For example, these have been the gauges adopted in order to consider the general contribution of Copyright to the Economy, of Patents of different types as well as a recent attempt to measure the macroeconomics value of a particular exception to copyright. Our analysis shows, as is stressed in the following sections, that to the extent that these evaluation enterprises are successful, their success in reliance on this set of measures cannot be replicated to the CC context.[\[29\]](#)

### **Inherent ineptness of macroeconomic measures**

First, it is a fact that most of the macroeconomic measures are nation-centric. This, while CC is a global enterprise which sets to advance *global* welfare in the three spheres of supporting tools, supporting a platform and advancing a normative agenda. In this sense, the national measures are ill-fit to gauge the contribution of CC without shortchanging it.

One could think that this incongruence of measures to enterprise can be readily solved by aggregation of the macroeconomic contributions of CC to each country. However, this cannot serve as a solution for the CC enterprise, despite the fact that it has been used by other studies which have mostly considered a specific country or specific geographical region (and thus either had no need of performing an aggregation or performed one in a constricted space).[\[30\]](#)

The reason for CC's inability to rely on brute-force aggregation is that CC's goal is to *optimize* the global welfare. As mentioned before, its contribution ought to be measured against its goals, and thus it must consider cases where it advances one geographical location at the expense of disadvantaging another, which is information highly relevant to the extent of CC's contribution which a direct summation will not expose.

Second, most of the macroeconomic measures do not account for non-market transactions. In

other words, activities that are not directly paid for, will not contribute to these measures. Needless to say, CC supports a wide range of non-market interactions. In fact, the promotion of non-market transactions is at the core of CC's activity, which means that measures which fail to regularly consider those interactions as standard part of their target area would not do.

It is important to note that these shortcomings have been relevant to other enterprises and thus have not evaded policy makers and economists that wished to rely on macroeconomic measures. The World Bank, for example, despite being content with measuring the total wealth as the net present value of future consumption, came up with a measure for what it deems "intangible capital".<sup>[31]</sup> In essence, this measure is calculated as the difference between total wealth and the sum of produced and natural capital. According to the World Bank, this number "necessarily includes human capital—the sum of knowledge, skills, and know-how possessed by the population. It also includes the institutional infrastructure of the country as well as the social capital—the level of trust among people in a society and their ability to work together toward common goals."<sup>[32]</sup>

Still, this marginal treatment for *intangible capital* does not solve the inadequacy of this measure to evaluate the CC enterprise. The first reason for this is that since intangible capital contribution is a very large part of CC's goal, it requires a gauge which treats this type of welfare contribution directly, as a primary area of value, instead of vicariously, as a complement, which is what the residual evaluation effectively does. The second and related reason is that CC is considering both monetary and non-monetary interactions when it is making its operational decisions. This means that the calculation which regards the two separately is less likely to be representative of the value created by CC, since for the purposes of optimizing its contribution, CC affects both in an interrelated manner, sometimes in opposite directions. Therefore in order to assess CC's choice, a measure which considers the mutual influence is necessary. A third incongruence is more fundamental than it is practical: Indeed the very foundations on which CC has been established have to do with the presumption that the consumption stream cannot fully account for human and social capital or for an optimal institutional infrastructure. This means that even these adapted measures would fail to represent the range of contribution of the CC enterprise. In other words, CC as a free culture movement is set to contest the world view which instructs the economic

organizations that are creating and sustaining these welfare metrics.

### **Practical difficulty with macroeconomic measures**

The Macroeconomic measures are so broad and all-encompassing that it is generally very hard to measure the clear effect that enterprises such as CC has on them. As an illustrative example, the GDP is the sum of Consumption, Investment, Government Spending and Net Exports. Thus, in order to assess CC's contribution to the GDP it remains necessary to measure its contribution to each of these variables, while CC's general contribution to each is extremely hard to isolate. Studies that have been conducted in the same general area of value estimation serve as nothing but proof of this difficulty – even when their authors used macroeconomic measures they avoided isolating the direct contribution of the part of the IP environment that they were studying to these measures.[\[33\]](#)

A partial reason for this difficulty is that as a general matter, the CC related activity is remote from the materialization of the macroeconomic benefit. When it comes to the first pillar of activity of CC, the use of its tools, although eventually relevant to GDP through all of its components, is extremely dispersed and hard to measure in the broad strokes which these components require.

The measurement of the contribution of CC's second pillar of activity - its institutional contribution - presents another practical difficulty for estimation using macroeconomic measures, which harks back to the inherent problems but from a practical perspective. CC operates as a global institution, and as such its contribution should be judged in not only in national terms but predominantly in global terms, such as how CC's existence as a stable entity in the global legal regime impacts global welfare, how CC's promotion of standardization impacts the certainty and stability of the global IP environment (which in turn translates directly to welfare terms).

The norm pillar seems to be almost categorically at odds with macroeconomic estimation in the sense that they stand on distinct ideological foundations. The macroeconomic set of measures is strictly utilitarian, whereas the norm pillar has both a utilitarian aspect as well as an aspect which creates the proper environment against which utility will be estimated. In other words, not only is CC operating in the norm space in order to recalibrate the intellectual property space in a way that will induce more value, but rather it is also acting according to a set of beliefs with respect to how

the fields of its operation *ought* to operate, namely in a way that is more collaborative and free. In other words, one could sensibly ask oneself whether this recalibration of norms is beneficial to the aggregate welfare, but this is not the question which CC is trying to answer when inquiring after the extent of its contribution in the norm space. Rather, CC sets to evaluate the extent to which its operation nudges the norm space, and in this sense it will see itself as successful if it manages the goal of increased collaboration. Indeed, it is a separate question whether an extended amount of collaboration, or the CC mode of creation, is in itself beneficial to welfare, yet CC counts this as one of the basic presumptions to its enterprise.

Using macroeconomic measures to weigh the soundness of CC's normative goal would be advantageous. Yet in one sense, this is what would be done under a macroeconomic measurement of the contribution of CC under the other pillars (which is prone to difficulties which have already been discussed) and in another sense, it would seem like this inquiry would be less relevant to CC, but rather to a more general inquiry with respect to general IP frameworks.

The point before last renders clearer another very different aspect which is making macroeconomic measures less effective to the evaluation of the CC effort: More often than not, CC's contribution to these value measures is fully captured by a midlevel space which itself contributes directly to the macroeconomic plane. In other words, looking beyond CC's direct impact will do nothing to promote the efficacy, specificity, soundness or integrity of the evaluation. If anything, it might add an unnecessary level of complication.

## **The Second Approach: Direct quality, quantity, variability**

The second approach described here is the one which may be adopted for the sake of conducting the evaluation study. In general, this approach can be thought of as a surplus approach which is set to measure the direct objective benefits that are related to the CC enterprise.

Particularly, the study will measure the incremental contribution of CC in terms of quality and quantity and variability of collaboration enterprises. Both quality and quantity will be measured across the different fields, under the different value pillars and as they pertain to both productive and consumptive use. By *productive use*, we implicate the sense that CC complements both the

quality and the quantity of collaborative endeavors and by *consumptive use* we mean the sense in which CC promotes passive use of the collaborative endeavors.

The variability parameter is set to measure the extension of collaborative enterprises which is induced by CC. As explained before, variability has both a local meaning – in the creation of new collaborative enterprises inside the field of activity, a universal meaning – in CC's support of the dynamics of the creation of new fields of collaborative activity.

The aspect of variability is very much related to the innovation literature which often analyzes the status and dynamics of growth in terms of the accumulation of new products.[\[35\]](#)

Quality has both an internal and an external meaning: In terms of productive use, by internal quality of a work we mean to refer to the works' degree of excellence, which in itself is a complex measure. Note that this measure pertains to the work itself, whereas the external quality measure means the contribution of the creative enterprise to the promotion of a collaborative environment and is therefore tied to the productive process and to the consumptive uses. To use a clear example for the latter, a work dedicated to the PD by applying CCo and then used by a downward stream of users, passive and active, is a work of higher collaborative value than one which is licensed under BY-ND and never used by any productive or consumptive users.

In terms of consumptive use, quality refers to the advantage which consumers are able to extract from the endeavor. This parameter is inevitably tied to both internal and external aspects of quality. To illustrate, the level of the work will obviously generate more value for its passive consumer and its impact on collaboration would indicate to the users the extent to which they can potentially use the work which will make them extract more out of it even if they end up not using it as a resource.

Although the quantitative and qualitative measures are two separate measures, the evaluation would need to account for cases where one is promoted at the cost of the other. For example, if there are more works that are being created, it is important to know whether these are of decreased quality and vice versa. The next immediate step would be to analyze whether the particular balance which CC strikes between them is optimal or not.

## Dynamic Aspect

Importantly, it is not just changes that CC induces in the measure of quality, quantity and variability that ought to be calculated. Crucial to the value assessment is the consideration of *change rate*. In other words, the rapidity of value accumulation is an influential parameter from a value perspective.

In the next section there is a listing of the value measures proposed for each field of operation including a more detailed assessment of the exact locations where CC augments that value.

One of the challenges which CC is faced with is the fact that it operates across fields. Indeed, many comparable endeavors have constrained themselves to a particular field of operation and then had a much easier time quantifying the value which is created by the studied activity.<sup>[36]</sup> Mindful of these former experiences, CC is offering to adopt measures that will quantify its contribution to each field of operation. These measures are discussed below. However, CC cannot be content with these measures and needs to consider its general contribution and for several different reasons:

- (1) CC is operating in numerous fields. In order to be optimally effective, it must rely on cost/benefit analysis which will suggest to it how to best divide its own resources.
- (2) CC is operating as a comprehensive framework and thus value which is created in one field has spillover effects to other fields. Naturally, this pertains to CC's activity in the 2nd and 3rd pillars and less so in the transactional pillar. However, even when it comes to the latter, the value which is created by a single use of a CC tool depends on the users' ability to understand the content, to be certain of the enforcement and also depends on what the use of the license means in the social environment. All of this is to say that there are important cross-directional influences between fields, which would be wrong to ignore.
- (3) Because CC is set to support collaborative efforts, these fields of operation are not clear-cut fields in the sense that some works cannot be categorized as part of just one of them. For example, basic science and OER are far from being distinct fields and of course UGC comes in all "flavors" and is really a varied enterprise. In fact, CC sets itself to promote these interdisciplinary collaborations and considers those as essential parts of the value it creates.

(4) Often, CC's contribution will be in creating altogether new fields of collaborative activity. It is important not to lose track of those by putting too much emphasis on inter-field benefits.

Another way in which other evaluation projects have simplified their task was to narrow down to a particular geographic location.<sup>[37]</sup> The incongruence of this technique to the evaluation of CC has already been described at length: CC is a global enterprise set to promote collaboration between actors without regard to their geographical location. Of course global cooperation is expected to amass value in particular locations, and it is very true that the same activity initiated by CC will accrue benefits that will vary from one place to the next because of the distinct environments. However, CC's mission is primarily to contribute to the global community and therefore, the separate contributions that it is making are analyzed as secondary impacts.

One way to restrict the analysis is to consider space in which CC operates directly, namely, the international legal framework space. In other words, the baseline to which CC adds is the legal baseline which makes it a little easier to assess the incremental contribution of CC.

## **The Contribution to Collaboration**

Under this rubric, what is evaluated is the extent to which CC promotes creative communities and collaborative social capacity. Since this activity is at the core of social enterprises that CC seeks to promote, the extent of its contribution there requires a separate analysis.

Some of the importance of social collaboration is found in its ability to charge the existing fields of creative activity with the required energy that would ensure that their measures of quality, quantity and variability improve. When it comes to quantity, effective will be more participants as well as more cooperation that are both induced by this collaborative energy. From the internal quality perspective, more collaboration potentially means that more partake in the Creative Process and the cultivation of the creative spark is rendered more efficacious. From the external quality perspective, a collaborative work created in an environment, which appreciates collaboration, will be more useful to the consumers of the work because they will see it as a potential resource. When it comes to the potential contribution to variability, fashioning more collaborative efforts has the potential of supporting new expressions within the field.

From another respect, this social charge is the one that is later able to induce creative collaboration across fields and new creative collaboration. In other words, measuring the expansion of collaborative energy is key to our ability to foresee completely new creative enterprises, which cannot be accounted for by looking at the trends that the different fields are undergoing.

In order to accomplish that, the following need to be reckoned with: (1) Social collaboration is pertinent across fields and therefore should not be double counted along with the contribution to each specific one. (2) Social collaboration is the fuel that induces future contribution and therefore will be responsible for the rate of value accumulation as well as for the creation of new horizons of value. (3) The inherent value of social collaboration is emphatically hard to measure and requires a presumption that more collaboration in terms of quantity and affectivity is beneficial. (4) There are two type of collaboration that should be accounted for: horizontal and vertical. The difference is not essential and only refers to the time when a creative resource that is being used has been produced.

### **Vertical and Horizontal collaboration**

Horizontal collaboration means to refer to the creation of resources through the process of fashioning the work, whereas vertical collaboration means the resources that have been produced in a separate process and are later used for the purpose of a particular collaborative endeavor. There is a main difference in the actors who are providing vertical and horizontal resources. The first group is constructed of creators who are participating indirectly, without intent to contribute to a specific project (although mostly with intent to collaborate – as indicated by the license choice). The horizontal collaborators, on the other hand, are participating directly in a given project. Both of these collaborations are indications of the contribution of CC, through the use of the tools, the framework and the normative support, the three pillars that are facilitating collaboration.

### **The 3 Pillars of Contribution and Collaboration**

Stated specifically, extended collaboration is the product of CC's operation under the three pillars

of the enterprise.

When it comes to the tool contribution:

1. Vertical contribution is double fold: (a) Itself, it is assisted by a license tool facilitating downstream uses and clearly, (b) the tools allows the produced work to itself be used as a resource.
2. Horizontal contribution is assisted by reliance on tools that coordinate the usage and allows the active participants to coordinate their expectations from each other.

When it comes to the platform contribution:

The operation of CC as an institution contributes to the shared understanding by the collaborating actors that:

1. The licenses that are being relied upon are interoperable - That efforts of extended interoperability and standardization will be ongoing.
2. That the license choice will be continuously supported and will gain traction - Stability.
3. Of the licenses' legal meaning, (a) Reliance interests protected and (b) Expectation interests protected
4. Of the licenses' social meaning (by the partaking actors, by future actors) (a) Reliance interests protected, (b) Expectation interests protected, and (C) Reputational interests promoted
5. Of the existence of CC supporting tools: search tools for CC works,
6. Collaboration can happen between actors of distinct geographical locations

The 3<sup>rd</sup> pillar's direct contribution to collaboration:

CC weighs in as a power highlighting the merit of collaboration and collaborative enterprises and their importance to the general welfare. This means that CC the parties enjoy an extended reputational impact by virtue of collaborating.

The 3<sup>rd</sup> pillar's indirect contribution to collaboration:

- (1) Impacting the legal environment's general congeniality toward collaborative enterprises. (through provisions that deal with joint authorship, through different allocation of works on the public-domain/IP protected spectrum, through extended legal frameworks supporting collaboration, as examples.)
- (2) Extended knowledge about the ease of collaboration, and
- (3)

Inducing other entities that are supporting collaboration.

### **Externalities**

A general problem subsists with the separation of the 3<sup>rd</sup> pillar of contribution to collaboration - CC's contribution in the norm space, from contributions to collaboration which is not directly produced by CC under any of its pillars of contribution. This is because the 3<sup>rd</sup> pillar is expected to produce benefits that will carry over to every activity pertaining to collaboration.

=> it appears that this is one externality which will be very hard to discern. Since CC contributes in so many different ways and this is an evaluation task that is bordering on the impossible, it might be a good idea to ignore this particular contribution in the calculations, while keeping in mind that the evaluation is a lower bound. The metrics proposed in the next section are an attempt to encapsulate the value generated out of the three pillars.

### **Proposed Metrics**

1. Number of collaborative projects of all types: By field (account for cross field cooperation)
2. Number of entities involved in the project (1) Separately: People, organizations, groups (2) Numbers, percentages
3. Type of collaborators involved: Lay/professional, professional: type, Numbers, Involvement level (size), Geography distribution (real location of contributors, of users),
4. Level of cooperation or the depth and width of the tree like infrastructure.
5. Newness level (on a scale of newness of the enterprise)
6. Consumption of work: passive use (1) Accessibility measures (2) Consumption levels
7. Efficiency increase (productive use: use as a resource)
8. Extent of reliance on former works (1) Number (2) Depth (if the works themselves relied on prior works – a tree depicting downstream reliance. Discussed at the data section)
9. New collaborative applications
10. New collaborative enterprises identification tools

### **The Incremental value of CC to Collaboration**

As was mentioned here before, part of the analysis must consider CC's incremental contribution. Specifically, CC needs to account for impacts, both positive and negative, on collaboration that have roots partially or completely external to it. Environmental parameters that influence collaboration, like the general IP environment, legal and social, and the activity of other actors like

ones that are operating in the same space as CC, should be carefully discerned from the contribution of CC. The way to go about it would be to use metrics that will gauge external influence and will thus control for impacts external to CC:

### **Control Metrics**

1. Collaborative projects based on other platforms - Across disciplines
2. Creative projects that are not collaborative - Across disciplines
3. IP Lawsuits based on authorship claims
4. Legal changes that pertain to collaboration
5. Technical platforms for collaboration (need to separate between those induced by CC and those which are induced by other sources) - dynamics
6. (other) legal platforms for collaboration - Dynamics
7. Government grants for collaborative enterprises (non CC – easy separation: government will usually define the license to be used)

### **The Contribution to Art**

Art is a specific value area to which CC contributes. Art is a term that encompasses activities that are often divided into distinct genres. However, online creation has to some extent challenged the boundaries of those genres as it has provided an environment which has made it easy for the creators to put their creative efforts into works that cannot be conveniently categorized under one genre or even two, but rather appear to be something more along the lines of a hodgepodge of genres. This genre mixture is generally thought of as evidence of new creativity: in other words, this cross-genres activity suggests the existence of creative energy of a different type of creative stamina that characterizes intra-genre activity. The measurement of the contribution of CC will take account of both.

A different way, perhaps, of looking at the same characteristic is that of the evolution of new genres. This may simply be a case where a particular mixture has gained traction and received the recognition of a genre, whereas it has yet to happen for another brand of collage. At any rate, whether different or identical, the evolution of new genres as induced by CC is again part of what is being measured.

## The General Value of Art

The contribution of art to welfare is hard to estimate, and indeed, not many have tried to come up with analytical frameworks that would gauge art and its contribution. Instead there persists a general acceptance among most that art is dually valuable, as an enterprise and for the outputs it produces. CC is likewise resigned that art is valuable and therefore does not linger on the task of proving that art is beneficial as a general matter. In fact, it is very much willing to accept it as a *prima facie* truth like most everybody else. And yet for the purpose of its value analysis CC must subscribe itself to some theoretical framework that analyzes the contribution of art. The reason for this is that CC needs to assess its *incremental contribution* and the increment itself needs to be modeled somehow.

With regard to the possible models that could be applied, some writers have analyzed the quality of artistic products as strongly hinged in the question of how innovative they are.[\[38\]](#) In other words, a valuable or a good artwork is one, which is *avant-garde* in terms of technique or artistic expression. If we are ready to accept this paradigm, then that will allow us the extension of the full breadth of theories which analyze the capacity of innovation to enhance welfare, or the value of innovation to art. This is because some of these paradigms do not pause on the nature of the outputs but mostly thinks of the very existence of novel outputs as inherently beneficial. In other words, thinking in these terms of innovation helps us to gauge both the contribution of CC to welfare through art and its contribution to art itself.

When it comes to directly influencing the field, CC maintains that all else being equal, more art is better, more art contributors is better, more consumption of art is better, *better* art is better and extended variability is better.

As was mentioned before, some of these measures can help tie back the contribution of CC to the general welfare through the contribution to art innovation and to innovation in general.[\[39\]](#)

## Quantity Parameters for CC'd Art

Quantity includes all the measures that are based on counting. Among which are the following:

1. The number of CC artworks that are being produced – indeed, CC does operate under the

premise that all other things being equal, more artworks is for the better. The claim that more art might mean more clamor in the field (note that this pertains only to the overcrowding claim and not to other claims that touch upon quality) should be dealt with not by reducing the number of artworks but optimizing search and identification capabilities.

2. The number of CC artists – although it is possible to claim, as many do, that artistic production should be reserved to a thin stratum of artists that are particularly good or are passionate enough about art to the extent that they choose it for a profession, CC operates under the conviction that more engagement in artistic pursuits is beneficial regardless of the characteristics of the artist. These people either find art to be a waste of time in comparison to other pursuits, or believe that lay engagement in art contributes very little. Yet there is much evidence that more is more.[\[40\]](#)

a. It is proposed to measure the number of participants per artwork under the collaboration section.

b. To the extent possible, there should be an effort to separate between the extension of the number of lay participants and the number of expert participants.

3. The number of new types of CC artworks that are generated

## **Quality of CC Art, internal & external**

### Internal measures:

1. Technique level (per each art genre)
2. Technique level of patchwork (the quality of the patch work)
3. Quality of artistic expression - Depth measure

### External measures

1. Outward impression created by artwork (1) Lay impression, and (2) Expert impression
2. Consumption readiness (accessibility) - Need to rely on theory with respect to the implication this has on quality, since some would argue that increased accessibility means degraded art or lower quality art, whereas some would argue that increased accessibility is art managing its purpose. For its purpose here CC adopts a theoretical framework, which suggests the latter.

## **CC Art Variability Measures, Internal, external**

1. (direct measures) Novelty level \ conceptual and experimental separately measured.[\[41\]](#) (1) New genre (2) Within genre
2. (indirect measures) The number of new relevant applications (1) Technique (art editing applications) (2) Distribution (art distribution applications) (3) Search applications (for art) (4) Curation activity, exhibition (CC work)

## **Control Measures**

1. Extension of production of non-CC art To gauge increased artistic activity (can reflect on CC art too) - Separate between non-CC art which is licensed under open framework and between proprietary frameworks. (Part of the growth of comparable frameworks should be attributed to CC's activity under the 3<sup>rd</sup> pillar): (1) Across genres (2) New genres (3) Dynamics
2. Extension of consumption of non-CC art To gauge increased artistic activity (can reflect on CC art too) (a) Separate between non-CC art which is licensed under open framework and between proprietary frameworks. (b) Across genres (c) New genres (d) Dynamics
3. Art markets expansion
4. Extension in the number of artists, Professionals, Lay
5. Technical platforms for art creation, distribution, consumption (non-CC, mixed CC and non-CC) - dynamics
6. Government grants for art (non CC – easy separation: government will usually define the license to be used)

## **The Value of UGC – CC's contribution**

User Generated Content is a relatively new enterprise heralded by some as one that challenges everything that was previously assumed about production motivation.[\[42\]](#) UGC encompasses a range of activities that are conducted online and that are essentially collaborative and voluntary. In this sense UGC is the most natural field for the operation of CC because the mind set of its

participants is a priori to engage in a joint cultural endeavor. Moreover, this field is not suffused historical circumstance which have brought to the fore a more individualistic approach like the rest of the fields. Therefore, CC's incremental value in UGC is in its ability to nurture and cultivate this motivation to cooperate and to make cooperation easier and more efficient.

Under this value rubric what are being considered are cases where the contributions of users are micro contributions that cannot be standalone contributions or else the enterprise will be useless. Such examples of UGC enterprises are Wikipedia, Blogs, Twits, Facebook entries, Uses of commenting applications, of Recommendation Applications (yelp, digg, Foursquare, etc.)

If the relevant target group of participants is still constructed mostly of actors which are acting in the social sphere, i.e., actors who contribute content under their social or civic parameters, we do see a rise of professional actors who are active in this space. For example, professional bloggers, UGC editors, etc. These actors are not necessarily, or even mostly, engaging in these acts of UGC for monetary compensation accrual. Still, the breadth of their engagement suggests that their motivations are different, that their approach to the tools and frameworks is different and that creating an impact upon them will carry a different implication than the one induced by influencing other types of actors.

Since the area of UGC is essentially collaborative, more than in any other area, CC's operation is expected to be accompanied by costs and not just benefits for the operation.[\[43\]](#) Needless to say, the measures that are set to measure the contribution of CC to UGC need to take account of the costs.

### **Measures of CC's contribution to UGC**

1. Increased UGC activity on CC platform adoption (contribution, consumption)
  - a. (consumption) Accessibility increase to CC'd UGC content (separate uses, separate users)
  - b. (consumption) Efficiency increase to CC'd UGC content: More reliance for other enterprises, Less reliance on other resources
  - c. (production) Higher Quality for Contribution- separate uses, separate users
2. Increased CC'd UGC enterprises

### 3. Development of CC'd UGC platforms

#### **Controls for UGC**

Increased UGC activity across the board (hard to discern from 3<sup>rd</sup> pillar)

#### **The Contribution of CC to Open Education**<sup>[44]</sup>

##### **General Measures for Contribution of OER**

- OER's ability to add to teacher's value measures
- The ability to add to teaching tools – savings in production costs
- The ability to add to learning tools – savings in consumption, more consumption
- increased access
- increased Efficaciousness of access
- more class plans
- increased class plan quality
- more OER platforms
- extended use of existing platforms
- consolidation of OER platforms
- OER in new fields of education

#### **The Contribution of CC in the field of Open Science - TBD**

### **Theoretical Basis of Direct Contribution, in more detail**

#### **CC's Contribution to Innovation**

It is commonly accepted that society has a vital interest in encouraging innovation. There are two major models characterizing how this may be done. Both touch upon the range of operations of CC: The first, the "private investment" model, assumes that innovation will be supported by private investment and for this purpose it is necessary that the private contributors can

appropriate the value generated by their investment.<sup>[45]</sup> This is in turn achieved via intellectual property.

According to this assessment, the value of CC is in the sense that it facilitates the ability of the innovator to design her terms of downstream usage of her innovative output.

It is important to note that the analysis here that is relevant to the goals of CC is already a variation over the traditional Intellectual Property Analysis in its reference to innovation: Whereas the latter really considers one single entity – the innovator – and its interests to ensure optimal production of innovations at the short term expense of society, the former analysis which is the viewpoint of CC is that **these interests are not necessarily or even usually detached**.

Especially in the type of human endeavors which CC takes issue with, the interests of innovators and society are largely interdependent. Therefore, CC as a platform allows the innovator to design the social usage of her outputs in a way that will take careful consideration of the aligning interests of herself and society. In other words, it is sometimes best for the innovator that her outputs are distributed as widely as possible, and so she can attest to this fact by picking the right CC license, without the fear of uncertainty curtailing her steps.

In other words, CC allows the innovator to retailor her interests around the benchmark of Copyright, and as such, to guarantee that it allows society the widest leeway to use her works as corresponds with her interests. Obviously, this is a position which is a *Pareto improvement* over the baseline, improving both the innovator's condition (and in that sense, improving the long term benefits to society which were the reason for allowing the innovator the advantage of deciding on the license terms against the IP benchmark) and the condition of society which is granted more freedom to use the work with the added value which is relevant to all which is the certainty of the terms of usage.

The second major model for inducing innovation is termed the collective action model. This model applies to the provision of public goods, where a public good is defined by its non-excludability and non-rivalry. There are good reasons to think that most of the enterprises which are potential CC clients are enterprises for the production of public goods because of their medium (mostly web) and their nature as being rich information products. In extreme cases such as these, there is

no sense in amassing IP rights because these would just be useless because their enforcement is impossible.

These types of enterprises are usually supported by subsidies.[\[46\]](#) For example, on many occasions governments provide monetary subsidies for basic research for this reason. **The social structure of science itself then operates via norms of reciprocity and knowledge sharing among scientists to insure contributions to public goods are made, and to offer reputation-based rewards for good performance.** This is where CC comes in: it enhances the capacity of these communities to **ground these norms of reciprocity and knowledge percolation** and it ensures that **reputational value is accrued by ascertaining the attribution is closely maintained.** Therefore it ensures that even in cases where theorists predict failure of Collective Action projects, like the majority of the existing CC' supported enterprises, that the reliance on the licensing platform will ensure that they are successful. This cases are cases where the community of collaborators is unboundedly large and dispersed, comprised of diverse individuals who are not acquainted and who are not predisposed to monitoring.[\[47\]](#)

## CC's Contribution Static Welfare

Certainly according to a utilitarian analysis, IP is deemed to compromise static welfare or the current state for the purpose of guaranteeing optimal levels of innovation-related activity. Under this paradigm, IP is offering the innovator or the creator more than the power that she would be typically afforded *sans* IP rights to control the exploitation of her work.

Although this is the case, this is not to say that optimizing the current state of affairs is not a second order priority. In other words, once future innovation levels have been guaranteed to be optimal, the next immediate concern is to maximize welfare at present.

Since this is the case, this is yet another location where CC promotes welfare to a very important extent as a correction to the self-imposed ails of copyright: in other words, it allows the IP owner an easy to use, clear-cut and certain tool to forgive some of the rights that copyright grants her and the potential users an easy way to be aware of the chosen status of the work.

In other words, as a licensing platforms CC enables the **utility enhancing refinement of the power**

vested by IP.

## Challenge to both Static and Dynamic Contribution of CC

- CC in its institutional capacity, lowering transaction costs

Admittedly CC is offering a discrete and not a continuous refinement. It is therefore subjected to the immediate challenge naturally arising from the former description: if CC enhances welfare by offering a contributive *refinement* to IP, allowing a Pareto improvement by facilitating the re-tailoring of the baseline rights, why not keep at it to allow narrower and narrower refinements?

Indeed CC offers a legal platform which restricts the refinements. But it does so for a reason directly related with the value question: in order not to compromise the other areas of contribution of CC that rely on the advantages of it being a legal platform and as such a platform that allows certainty and stability through legal and technical standardization, it needs to strike the optimal balance between refinement and its institutional advantages.

Custom-made contracts can only exist at the price of certainty and standardization which are attributes of a legal framework which must rely on *prefab* licenses to subsist as a framework. In order to optimize the refining capacity while refraining from defragmenting the framework to the point where its goals are undermined, CC has been responsive to its users and has intentionally undergone a long process of trial and error through which different tools have been tested and the chosen one customized. As the outcomes of the evaluation process will prove, it has been able to allow its licensors and licensees to enjoy increased flexibility while maintaining the advantages of a legal platform offering boilerplate tools. Interoperability. This is relevant here.

It is true that as technology progresses to a full implementation of the semantic web, when search capabilities progress as tagging technologies are fully implemented to allow clear authentication, it is possible that the **optimal level of the fragmentation or proliferation will increase.**

Bottom line of the range of CC contribution

- Innovation (dynamic welfare)
- Present state optimization (static welfare)

- Institutional advantages (minimizing transaction costs)
- Normative weight (relevant to all of the prior value areas)

## **CC contribution to the PD**

All appear to agree that the PD space is an important one in terms of its contribution to welfare. In essence it is a space comprised of works the IP protection of which will not promote innovation further while it will surely impinge on the value which is being created by the purported free access to those works. And yet the way IP rights are globally designed does not optimally construct the PD and is thus yet another distinctly important area of the contribution of CC.

The less than optimal construction of the PD is the result of either a default rule which attaches IP rights to a work from its inception – regardless of the desires of the creator - or a result of uncertainty with respect to rights tied to a work.

Generally, then, CC contributes to the PD in two distinct ways: First, it helps draw its boundaries by providing CCo and promoting its use and thus directly augmenting the PD by adding works to it. Second, it effectively increases the PD by marking works that are part of it as such, and thus rendering those works usable, as works that are truly part of the PD.

## **CC and the Exceptions to IP**

In many jurisdictions IP rights are harnessed by exceptions to the rights which help define the extent and breadth of the protection that is afforded to the copyright holders.

These exceptions have been used for creative and consumptive activity in fields that overlap with fields of activity that rely extensively on the CC framework like open education (fair use exception to copyright) and basic science (experimental use exception for example). Still, while both CC licenses and the exceptions to IP rights rely on the IP infrastructure, they are distinctly different.

First, while exceptions to IP are something that is imposed on the IP rights holder as an inherent aspect of the legal framework which defines the afforded protection, the adoption of CC licenses requires active adoption by the rights holder. Second, exceptions are designed to be narrow in scope and in their target audience whereas the licenses are designed to allow broad freedoms.

These differences serve to explain why the exceptions do not serve to create the same value as the CC framework does: First, Law and economics scholars have long observed that **vague standards cause over-deterrence**. And so despite their clear economic value, the uncertainty which stems from the existing uncertainty with regard to the breadth of the exception, an uncertainty which is built-in to them by virtue of their being “exceptions” to the right, fails them as adequate tools to allow wide exploitation of an IP protected creation in a way that is potentially acceptable to the IP rights holder. Also, since they are not tailored according to the creator’s requirements, exceptions do not allow the creator the ability to vindicate her rights in the optimal way.

So CC contributes in a way that adds to the benefits which accrue due to IP exceptions in at least three ways: (1) transaction costs aspect, micro: adding to certainty which is definitely the downside of the exceptions to IP (2) welfare impact: a Pareto improvement on the basic IP framework, whereas exceptions represent a Kaldor-Hicks improvement but would usually not be a Pareto improvement because they narrow the rights of the copyright holder. (3) dynamic welfare: (transaction costs aspect, macro) only a stable framework can promote innovation. (4) Different types of contribution to static welfare. Both set to maximize present welfare under the constraint of providing for dynamic welfare. But, the former will be used by consumers, the latter will be used at the supply side. As such CC adoption comes at a lower cost – since usually there would be less suppliers than consumers.

## **The Contribution to the reduction of institutional costs, 1<sup>st</sup> and 2<sup>nd</sup> Pillars**

In the past decades many scholars have analyzed transaction costs and have proved that sometimes they are as cumbersome as to prevent **efficient transactions** from taking place. Therefore, of all of the general areas of contribution of CC, at the micro level it is obvious that it is producing value in places where its platform is **curtailing transaction costs**.

There is a wide range of transaction costs that are being assuaged by the CC platform. These can be largely divided into four groups. The first group is the transaction costs which are the result of **uncertainty** of the baseline distribution of rights, or as they are referred to in general, the

**bargaining positions** of the parties. The second group of transaction costs, interdependent with the first group, is the ones that are the results of the **standard requirement to negotiate** the use of an IP-protected work. The third group of transaction costs which is generated by **search costs** – or the costs which are incurred by the need to locate those works that are available as resources, especially when one is looking for a use of a particular resource. The fourth group is constructed out of costs that were referred to earlier in this document, but they can also be considered under the paradigm of a category of transaction costs induced by having to “make-do” with the rigid framework of rights for instances where they are ill-fit.

Now to elaborate further on the types of the costs and how CC assuages them, the first group which was referred to is really a side-effect of Intellectual Property rights and the way these are designed. Some of the costs are due to an unclear legal horizon, like the obscurity of the exceptions provisions and the way they are interpreted by legal actors. This lack of clarity cannot be resolved in all cases, since some of these uncertainties are inherent to the fact of the exceptions provisions are by definition **standards** and not **rules**. This in turn is because they are legal provisions that need to be customized according to the specificities of case. Therefore, it is not a question of time clarifying the legal horizon but rather it is an emblematic aspect of standards.

Other concerns arise from the actual IP rules and not the exceptions thereof. This has to do with two facts with regard to the horizon of IP rights:

- o The global horizon of IP rights is constructed of **diverse IP regimes**. Therefore, when it comes to uses by users in different geo-locations, the uncertainty is built-in to the interaction. And
- o The **IP environment for the web is unclear**, which leads to a fuzzy map for the rights of creators.

Importantly, in many fields, (many of which are not surprisingly fields of operation in which CC has gained and is gaining expansive traction), the nature of the operators and operations are particularly prone to succumb to these costs. This is because these uses of the creations of others are often **micro uses**, where one wishes to rely on different fractions of abundant resources who have a multitude of possible (imperfect) substitutions and the users are often individuals making haphazard uses and are not savvy legal agents or have easy access to sound legal counsel.

With respect to the second group, without a readily available gallery of standardized licenses, each time one wishes to use a copyrighted piece in a way that isn't strictly for her individual strictly consumptive use, one ought to negotiate with the rights holder or holders. These interactions will always carry a cost which will vary according to the circumstances of the case. Frequently, as many commentators have noted, these costs will be aggravated by **hold-out** and **free rider** problems as well as other behavioral constraints that are due to the way that the parties are positioned (namely, the direction of the entitlement, uncertainties,...).[48] Influential in this context would also be the frequent detachedness of the parties and the one-time nature of most of the interactions. Indeed, another built-in malediction is the wasteful requirement of conducting separate negotiations for each sought after use, despite the fact that

## The Value of the Licensing Platform

As will be described in this section, there are quite a few straightforward beneficial attributes of the entire range of CC tools. And yet the goal of the analysis is to show that the platform is **comparatively advantageous**; put differently, that in the creative environments in which CC operates, the application of CC tools is superior to the use of all the alternative legal tools on the range from fully open to the most restrictive.

### Standardized Licenses –

CC licenses are prefabricated and therefore harness the transactional advantages, which arise from application of modular, boilerplate licenses: (a) There is no requirement to negotiate each and every standard use, (b) the language enjoys the clarity of interpretation which follows from extensive, lengthy use which: Creates an internal community understanding of what the license term mean, and enjoys interpretation through legal precedent, which adds the voice of the legal professional and adds even more certainty. The modularity which is the result of the reliance on encapsulated parts is yet again contributive to clarity. (c) the parties have a clearer vantage point for further negotiations, because both understand the baseline terms.

The claim for optimality of the particular structure of the platform and licenses in the platform is based on the following: (1) CC has been meticulously gathering user input with regard to the

tailoring and re-tailoring of its legal tools. (2) CC has been aggregating these inputs and accommodating them with optimally characterized changes of the tools' terms.<sup>[50]</sup> Ensuring optimality is a two-stage process including the optimal aggregation of the requirements which will consider the range of needs each with its relative weight of importance to aggregate welfare, and the optimal response to the aggregate requirement. Both of these stages have been undertaken relying on careful analysis taking into consideration static and dynamic efficiency constraints (ex post and ex ante considerations). (3) The guarantee of a smooth transition between license versions (minimizing costs of the tweaking process) protects the reliance interests of users of former version by ensuring backward compatibility and interoperability of the licenses, as well as ascertains the continuous certainty of licensors and licensees with respect to the content of the tools, by minimizing changes and maintaining interoperability. (4) CC is engaged in international standardization efforts – CC tools is unique in compiling versions of its tools that more than other licensing platforms, CC platform of licenses have taken pain to guarantee that their terms mean the same things in different jurisdictions all over the world. This effort has taken two distinct expressions, each designed to confront different expressions of the challenges which global standardization introduces:

- i. International Version: all of the CC tools have an international version called unported version. This version has been tailored to correspond to international IP law and can be employed at will of the licensor.<sup>[51]</sup>
- ii. Ported versions: for many jurisdictions, CC has worked with local teams to produce a version of the licenses that would correspond with the national legal environment. Indeed *customization* is inherent to this effort, however, since these projects have been coordinated by CC, they were and still are conducted in a way that minimized the differences to the extent possible and produce licenses that contain much that is identical.

1. Efficacious supply side licensing - The *modus operendi* of the application of the licenses is *at the source*. This suggests that the application of the license need only be performed once for the benefit of numerous downstream uses that do not require any special modification (which would mandate negotiations for a specific use).

- a. Evidently, that implies a reduced number of license setting interactions.
- b. Each license setting operation which does take place is cheaper because it is one sided (the decision of the licensor) instead of negotiated between the licensee and the licensor.

Indeed, setting the license terms at the supply side suggests that the future licensees will have no word in the matter, which in turn means that the choice of license will possibly be less than optimal for the specific user. This is indeed an inevitable cost however it does not suggest that this process is suboptimal since:

- c. The savings pointed to earlier are great.
- d. The potential licensee can always negotiate a private arrangement with the licensor and this transaction will be much cheaper due to the clear baseline which helps in clarifying the vantage point of both parties. This vantage point is a very comfortable one for the prospective licensee because he knows that the person with whom he will be negotiating is one who is There is no prima facie advantage to the licensor or hindrances to the transaction in all circumstances that would suggest that this negotiation will be especially cumbersome or skewed to the advantage of either the prospective supplier or the prospective consumer.

- 2. The license becomes an inherent part of the work. Because of the way that the license attaches to the work, as an inherent part of its metadata, it is
- 3. The licenses are backward and forward compatible: standardization in the realm of license choice: guaranteeing continued reliance on the same tools.

### Tool by tool Contribution – Theoretical Analysis

Tool	General	Direct Benefits, Licensor	Direct Benefits, Licensee	Institutional Benefits	Direct Costs
BY	This tool enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to downstream uses save one condition. <sup>[52]</sup> This condition is that whenever the work is used in a way that is not personally	Without any transactional costs, the licensor can permit the full range of downstream uses using a powerful signal that downstream uses are encouraged. (Cost savings) This means that the licensor is empowered with the ability to add a legal layer, which was adopted	Each licensee can freely use the work for whichever purpose: personal consumption, distribution to others, adding content, or as a resource for the production of new works. Each licensee has a clear grasp of	The freedom to license the downstream work under more restrictive terms, which is one of the specific freedoms under CC-BY creates the invariable cost of rendering works licensed under CC-BY incompatible or interoperable with works that are licensed under the category of	The freedom to license the downstream work under more restrictive terms, which is one of the specific freedoms under CC-BY creates the invariable cost of rendering works

<p>consumptive, its user should attribute according to the licensor's definitions for proper attribution. [53]</p> <p>Alongside this one obligation to attribute, a few restrictions exist, and yet together with the licensee's obligation to attribute, they all mean that legally, the licensees are prevented from treating the work as their own. This means that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <p>a. Sublicensing. The licensee cannot design new licenses that will apply to the licensed work.</p> <p>c. (No) Freedom of using the IP right as a legal tool:</p> <p>a. Licensees cannot pursue suspected infringers (enforcement of right) for misusing the work.</p> <p>b. Extending the right (where the law requires active extension steps): the licensees acquire the freedoms designed by the license for the duration of IP protection. The persistence of</p>	<p>singlehandedly, without reliance on other sources. (Psychological advantage)</p> <p>The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</p> <p>The licensor will enjoy the extended distribution of the work since it is clearly marked for freedom of use.</p> <p>Marking makes the BY work easily traceable as such a work</p> <p>Marking with BY makes the terms of usage clear</p> <p>Marking with BY sends a signal that the licensor is part of the collaborative community which impacts the usage of the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>	<p>the range of freedoms.</p> <p>Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>the Share-Alike licenses.</p> <p>Indeed, there is a sense in which this muddies the free space of works, because the users can choose to <i>Free Ride</i> the free space for resources and then create works that are proprietary without any license obligation not to do so.</p> <p>This cost again needs to be discounted from the benefits which are accrued, and will be shown unimportant if the number of creators and activity in the collaborative space increases optimally.</p>	<p>licensed under CC-BY incompatible or interoperable with works that are licensed under the category of the Share-Alike licenses.</p> <p>Indeed, there is a sense in which this muddies the free space of works, because the users can choose to <i>Free Ride</i> the free space for resources and then create works that are proprietary without any license obligation not to do so.</p> <p>This cost again needs to be discounted from the benefits which are accrued, and will be shown unimportant if the number of creators and activity in the collaborative space increases optimally.</p>
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protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead.

[\[54\]](#)

c. Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work, not just legally (by sub-licensing) but also technically.

Direct Contribution of CC-BY – by pillar of contribution

The contribution of the BY license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the CC-BY license (the 1st pillar contribution), its clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2nd pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the

	licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3rd pillar): the usage of the license which establishes the licensor as a collaborative actor				
BY-SA	<p>This tool enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to downstream uses save two conditions which are translated into obligations of the licensees.<a href="#">[55]</a> (1) The first condition is that whenever the work is used in a way that is not personally consumptive, its user should attribute according to the licensor's definitions for proper attribution. <a href="#">[56]</a> (2) the 2<sup>nd</sup> condition is that the downstream user is restricted in its ability to license the work which uses the work licensed as a resource to a BY-SA license or a compatible one.</p> <p>Alongside these obligations, a few restrictions exist, and yet together with the licensee's obligations, they all mean that legally, the licensees are prevented from treating the work as their own. This means</p>	<p>Without any transactional costs, the licensor can permit the full range of creative downstream uses using a powerful signal that downstream uses are encouraged, while guaranteeing that the users of the work do the same (some legal downstream uses are restricted) (Cost savings).</p> <p>This means that the licensor is empowered with the ability to add a legal layer, which was adopted singlehandedly, without reliance on other sources. (Psychological advantage)</p> <p>The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</p>	<p>Each licensee can freely use the work for whichever purpose: personal consumption, distribution to others, adding content, or as a resource for the production of new works.</p> <p>Each licensee has a clear grasp of the range of freedoms.</p> <p>Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>BY-SA is a powerful “<b>standardization</b>” tool since it obligates continued use of the same category of tools for all down stream uses. In this sense it contributes from a very distinct perspective of nudging future users to choose the one course that is available to them which is to choose a BY-SA or compatible license.</p> <p>BY-SA is also unique in being compatible with other existing tools guaranteeing <b>interoperability</b> with existing works licensed under BY-SA or compatible license and future like-licensed works.</p>	<p>CC-BY-SA has the inherent cost of being a license tool which strives to maximize freedom of downstream users but at the same time limits their legal power to license their own work.</p> <p>It needs to be proven that this limitation does not deprave the use of works licensed under CC-BY-SA even in cases where the licensee has no problem with using a comparable framework for her work, but because the downstream user does not wish to be so constrained.</p> <p>Under inherent cost in the use of the BY-SA tool is that it requires a little</p>

<p>that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <p>1. Sublicensing. The licensee cannot design new licenses that will apply to the licensed work.</p> <p>3. (No) Freedom of using the IP right as a legal tool:</p> <p>Licensees cannot pursue suspected infringers (enforcement of right) for misusing the work.</p> <p>Extending the right (where the law requires active extension steps): the licensees acquire the freedoms designed by the license for the duration of IP protection. The persistence of protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead. <a href="#">[52]</a></p> <p>Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work,</p>	<p>The licensor will enjoy the extended distribution of the work since it is clearly marked for freedom of use.</p> <p>Marking makes the BY-SA work easily traceable as such a work</p> <p>Marking with BY-SA makes the terms of usage clear</p> <p>Marking with BY-SA sends a signal that the licensor is part of the collaborative community which impacts the usage of the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>			<p>more than the basic understanding of the framework, because the SA condition is somewhat less simple for the comprehension of users who are lay in the law.</p> <p>The latter fact has two distinct costs: the first is directly related to the use of the license, which suggests that downstream users who misunderstand the terms or who find it hard to be certain of the meaning of the term will choose not to use the resource despite its optimality. The other cost is general to the platform, because its mark of simplicity is undermined.</p> <p>Again, the persistence of these costs does not undermine the optimality of the contribution of CC.</p>
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not just legally (by sub-licensing) but also technically.

**Direct Contribution of CC-BY-SA – by pillar of contribution**

The contribution of the BY-SA license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the CC-BY-SA license (the 1<sup>st</sup> pillar contribution), its clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.

With respect to the 3<sup>rd</sup> pillar as it refers to the BY and BY-SA framework, it is important to note that there is an argument within the free culture

movement with respect to the “freedom” measure of BY-SA in comparison to the “freedom” encapsulated in the BY license. Some argue that free use should mean to be able to do whatever you like with your work, including to adopt terms for its future consumption. [58] Others think of the commitment to freedom in general and thus do not want to see a work that has been dedicated by its licensor to downstream users regain its expansive IP shackles.

With respect to the mutual relationship of the 2<sup>nd</sup> and 3<sup>rd</sup> pillar to the two license tools: CC’s adoption of both license tools suggests a choice that CC has made with respect to its platform which allows the licensor to make this normative decision with respect to downstream uses. [59] 2<sup>nd</sup> pillar implications:

1. This is an expression of a cost-benefit analysis conducted by CC with respect to the optimal balance between internal-proliferation and providing a more customizable platform.
2. This is an

expression of CC's institutional co-existence and its optimal relationship with other institutions supporting licensing framework.

3. This is an expression of CC's response to "market demand".

3<sup>rd</sup> pillar implications:

1. The mutual support of both tools is a representation of CC's normative conviction that restricting the capacity of operatives in its fields by not furnishing the BY tool is ill-fit with the characteristics of the actors in its fields which are naturally prone for collaboration. In other words, this is not a group which should be coerced into free collaboration.

2. The mutual support is also induced by CC's belief that the rights of the licensors (legal authors) including their ability to set the terms of future uses of their works should be protected to the fullest possible extent without fracturing too much the norms of free culture.

3. CC's approach is therefore permissive in the sense that it includes more users as

	<p>its clients and allows more uses than other platforms.</p> <p>4. CC's approach accepts the basic premises of IP which vests extensive power in the legal author.</p>				
BY-NC	<p>This tool enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to downstream users save two conditions: [60] (1) Whenever the work is used in a way that is not personally consumptive, its user should attribute according to the licensor's definitions for proper attribution.[61] (2) The use of the work is completely free for downstream users but their own uses of it must remain non-commercial.</p> <p>One of the clear advantages of this tool is that it is very clear on its definition of commerciality, i.e., the type of usage that the license disallows: A work licensed under</p>	<p>The contribution of the BY-NC license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the BY-NC license (the 1<sup>st</sup> pillar contribution), its clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.</p>	<p>Each licensee can freely use the work for whichever purpose: personal consumption, distribution to others, adding content, or as a resource for the production of new works as long as the outcome is not to profit from it.</p> <p>Each licensee has a clear grasp of the range of freedoms.</p> <p>Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>It is important to note the special institutional implication of the clear-cut definition of a license that allows for all non-commercial uses: non-commerciality is a fairly contested and debated term.[64] The importance of this signal is related to the uncertainty which is suffused in the current IP environment which makes the users who want to use the work in a non-commercial fashion have to rely on the extremely unclear tenets of the exceptions to IP.[65]</p> <p>(1<sup>st</sup> and 2<sup>nd</sup> pillar) By providing a clear definition of "non-commerciality" in its license, CC is responding to a clear need of licensors who are sometimes very accepting of every use of the work that is for educational, private or creative use, but either want to appropriate the full range of the profit potential of the work or</p>	<p>Alongside the costs that are likewise associated to this license as to the former ones (complicatedness, free riding downstream users – but not as grave as the BY license where the users can appropriate all value, uncertainty), the NC licenses invariably create additional cost: They muddy the free space with works that cannot be used freely in the same way as other works. The problem is that the space can no longer be used freely as a free resource space and the users of it have to fret over the existence of this condition as they are limited</p>

<p>BY-NC cannot be used in any manner that is primarily intended for or directed toward commercial advantage or private monetary compensation.<a href="#">[62]</a></p> <p>Alongside the obligations to attribute and to maintain non-commerciality, a few restrictions exist, and yet together with the licensee's obligation to attribute, they all mean that legally, the licensees are prevented from treating the work as their own. This means that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <ol style="list-style-type: none"> <li>1. Sublicensing. The licensee cannot design new licenses that will apply to the licensed work.</li> <li>3. (No) Freedom of using the IP right as a legal tool:</li> <li>4. Licensees cannot pursue</li> </ol>	<p><b>(1<sup>st</sup> pillar) Direct Contribution of BY-NC – From the perspective of licensor, prospective and existing:</b></p> <p>Without any transactional costs, the licensor can permit the full range of non-commercial downstream uses using a powerful signal that downstream uses are encouraged. (Cost savings)</p> <p>This means that the licensor is empowered with the ability to add a legal layer, which was adopted singlehandedly, without reliance on other sources. (Psychological advantage)</p> <p>The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</p> <p>The licensor will enjoy the extended distribution of the work since it is clearly marked for</p>	<p><u>do not want to see their work exploited for commercial purposes.</u> Indeed, CC is the first platform that allows such a definition that can have the weight of a precedent as the correct interpretation of what non-commercial means. <a href="#">[66]</a></p> <p>(3rd pillar) providing this tool is an expression of the balance which CC is striking between the willingness to allow extensive freedom to use and reuse and its correspondence with the IP framework which is all about allowing innovators of all types appropriate the economic value of their creations. Indeed, this route is different than the one which other organizations in the free culture space. The latter highlight that NC licenses prevent interoperability with other open material, or that they prevent the enmeshing of materials in the free-to-use space that are defined NC. Admittedly, the use of NC licenses does create a category within the free-to-use space which is not free casting a shadow of restricted use over the space.<a href="#">[67]</a></p> <p>And yet the decision that</p>	<p>in their ability to mesh works that are licensed with the NC condition and works that are not.</p>
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<p>suspected infringers (enforcement of right) for misusing the work.</p> <p>5. Extending the right (where the law requires active extension steps): the licensees acquire the freedoms designed by the license for the duration of IP protection. The persistence of protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead. <a href="#">[63]</a></p> <p>6. Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work, not just legally (by sub-licensing) but also technically.</p> <p><b>Direct Contribution of CC-BY-NC – by pillar of contribution</b></p> <p>The contribution of the BY-NC license is multifold (some of</p>	<p>freedom of use.</p> <p>Marking makes the BY-NC work easily traceable as such a work</p> <p>Marking with BY-NC makes the terms of usage clear</p> <p>Marking with BY-NC sends a signal that the licensor is part of the collaborative community which impacts the usage of the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>	<p>CC has taken is based on utilitarian grounds, in other words, it is based on CC’s operation as a rationalizing entity which bases its decisions on a cost/benefit analysis instead of as an entity which is operating based on a purely social agenda.</p>
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	<p>these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the BY-NC license (the 1<sup>st</sup> pillar contribution), its clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.</p>				
BY-ND	<p>This tool enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to the range of <i>consumptive</i></p>	<p>Without any transactional costs, the licensor can permit the full range of purely consumptive downstream uses using a powerful signal that downstream uses which do not are</p>	<p>Each licensee can freely use the work for whichever purpose: personal consumption, distribution to others, or adding meta content on top</p>	<p>It is important to note the special institutional implication of the clear-cut definition of a license that allows for all purely consumptive uses: This way of structuring the license signals the willingness of the licensor to authorize a very broad range of</p>	<p>Alongside the costs that are likewise associated to this license as to the former ones (complicatedness, free riding downstream, uncertainty), the ND licenses,</p>

<p>downstream uses. [68] A work licensed under BY-ND can be used for distribution, for personal consumption or for adding a layer of commenting, or in other words, in any way that does not alter the content of the work itself.</p>	<p>encouraged. (Cost savings) This means that the licensor is empowered with the ability to add a legal layer, which was adopted singlehandedly, without reliance on other sources. (Psychological advantage)</p>	<p>of it, as long as the use does not compromise the contours of the original work. Each licensee has a clear grasp of the range of freedoms. Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>uses. The importance of this signal is related to the uncertainty which is suffused in the current IP environment which makes the users who want to use in a consumptive fashion have to rely on the extremely unclear tenets of the exceptions to IP. [72]</p>	<p>much like the NC licenses invariably create additional cost: They muddy the free space with works that cannot be used freely in the same way as other works. The problem is that the space can no longer be used freely as a free resource space and the users of it have to fret over the existence of this condition as they are limited in their ability to mesh works that are licensed with the NC condition and works that are not</p>
<p>The one obligation that accompanies all of these uses is that whenever the work is used in a way that is not purely personally consumptive, its user should attribute according to the licensor's definitions for proper attribution. [69]</p>	<p>The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</p>	<p>(1<sup>st</sup> and 2<sup>nd</sup> pillar) By providing a license which includes the no-derivatives condition, CC is responding to a clear need of licensors who are sometimes very accepting of every use of the work that does not impinge upon the contours of the work itself. This requirement of licensor arises from the willingness to be able to monitor the way that the work is being transformed to be included in a new work, while the licensor still wants to encourage the unrestricted ability of others to consume her work as is.</p>	<p>(3<sup>rd</sup> pillar) providing this tool is an expression of the balance which CC is striking between the willingness to allow extensive freedom to use and reuse and its correspondence with the IP framework which allows creators to</p>	<p>In a sense, the ND licenses are worse than the NC license in the sense that unavoidably, they augment the group of users who are active in the CC spheres users with distinctly different motivations than the natural users of a platform set to encourage free</p>
<p>One of the clear advantages of this tool is that it is very clear on its definition of what a derivative use means, i.e., the type of use that the license disallows: A work licensed under BY-NC cannot be used in any manner that is primarily intended for or directed toward commercial advantage or private monetary compensation. [70]</p>	<p>The licensor will enjoy the extended distribution of the work since it is clearly marked for freedom of use.</p> <ul style="list-style-type: none"> <li>• Marking makes the BY-ND work easily traceable as such a work</li> <li>• Marking with BY-ND makes the terms of usage clear</li> <li>• Marking with BY-ND sends a signal that the licensor is part of the collaborative</li> </ul>			
<p>Alongside the</p>				

<p>obligations to attribute and to maintain non-commerciality, a few restrictions exist, and yet together with the licensee's obligation to attribute, they all mean that legally, the licensees are prevented from treating the work as their own. This means that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <ol style="list-style-type: none"> <li>1. Sublicensing. The licensee cannot design new licenses that will apply to the licensed work.</li> <li>3. (No) Freedom of using the IP right as a legal tool:</li> <li>4. Licensees cannot pursue suspected infringers (enforcement of right) for misusing the work.</li> <li>5. Extending the right (where the law requires active extension steps): the licensees acquire the freedoms designed</li> </ol>	<p>community which impacts the usage of the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>		<p>control the way their work is being transformed. Indeed, this route is different than the one which other organizations in the free culture space. The latter highlight that ND licenses prevent interoperability with other open material, or that they prevent the enmeshing of materials in the free-to-use space that are defined ND. Admittedly, the use of ND licenses, even more so than ND licenses, does create a category within the free-to-use space which is not free casting a shadow of restricted use over the space.<sup>[73]</sup> And yet the decision that CC has taken is based on utilitarian grounds, in other words, it is based on CC's operation as a rationalizing entity which bases its decisions on a cost/benefit analysis instead of as an entity which is operating based on a purely social agenda.</p>	<p>usage of works an collaboration.</p> <p>If for NC licenses, it is possible that some of their users do not ever want to see their work used for commercial purposes, not by themselves or by others, and in that sense, their interests to not undermine the motivations that underlie Free Culture, users of ND licenses believe themselves to be eligible to control downstream uses of their work.</p> <p>And yet although this is an inherent cost to this license, as long as the optimal level of creation and creativity is achieved, it is well worth to suffer it.</p>
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by the license for the duration of IP protection. The persistence of protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead.

[\[71\]](#)

6. Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work, not just legally (by sub-licensing) but also technically.

**Direct Contribution of CC-BY-ND – by pillar of contribution**

The contribution of the BY-ND license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the BY-ND license (the 1<sup>st</sup> pillar contribution), its clarity, its straightforwardness, its multi-

	<p>jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.</p>				
BY-NC-ND	<p>The BY-NC-ND tool is the most restrictive of the tools that are part of the CC platform. It enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to the range of <i>consumptive</i> downstream uses that do not impact the contours of the work.<a href="#">[74]</a> A work licensed under BY-NC-ND can therefore</p>	<ul style="list-style-type: none"> <li>Without any transactional costs, the licensor can permit the full range of purely consumptive and non-commercial downstream uses using a powerful signal that downstream uses which do not are encouraged. (Cost savings)</li> <li>This means that the licensor is empowered with the ability to add a legal layer, which was adopted</li> </ul>	<p>Each licensee can freely use the work for whichever purpose: personal consumption, distribution to others, or adding meta content on top of it, as long as the use does not compromise the contours of the original work and that it does not award the licensee with any monetary gain.</p>	<p>It is important to note the special institutional implication of the clear-cut definition of a license that allows for all purely consumptive non-commercial uses:<a href="#">[78]</a> This way of structuring the license signals the willingness of the licensor to authorize a very broad range of uses. The importance of this signal is related to the uncertainty which is suffused in the current IP environment which makes the users who want to use in a consumptive fashion have to rely on the</p>	<p>Combination of the costs of ND and NC.</p>

<p>be used for distribution, for personal consumption or for adding a layer of commenting, or in other words, to be changed in any way that does not alter the content of the work itself.</p> <p>The one obligation that accompanies all of these uses is that whenever the work is used in a way that is not purely personally consumptive, its user should attribute according to the licensor's definitions for proper attribution.<a href="#">[75]</a></p> <p>One of the clear advantages of this tool is that it is very clear on its definition of what a derivative use and what a commercial use means, i.e., the types of uses that the license disallows: A work licensed under BY-NC-ND cannot be used in any manner that is primarily intended for or directed toward commercial advantage or private monetary compensation, nor can its content be</p>	<p>singlehandedly, without reliance on other sources. (Psychological advantage)</p> <ul style="list-style-type: none"> <li>• The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</li> <li>• The licensor will enjoy the extended distribution of the work since it is clearly marked for freedom of use.</li> <li>• Marking makes the BY-NC-ND work easily traceable as such a work</li> <li>• Marking with BY-NC-ND makes the terms of usage clear</li> <li>• Marking with BY-NC-ND sends a signal that the licensor is part of the collaborative community which impacts the usage of the work.</li> </ul> <p>These direct contributions can be evaluated by using the measures</p>	<p>Each licensee has a clear grasp of the range of freedoms.</p> <p>Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>extremely unclear tenets of the exceptions to IP.<a href="#">[79]</a></p> <p>(1<sup>st</sup> and 2<sup>nd</sup> pillar) By providing a license which includes the no-derivatives condition, CC is responding to a clear need of licensors who are sometimes very accepting of every use of the work that does not impinge upon the contours of the work itself. This requirement of licensor arises from the willingness to be able to monitor the way that the work is being transformed to be included in a new work, while the licensor still wants to encourage the unrestricted ability of others to consume her work as is as long as they do not appropriate any of the value which is to be derived from said consumption.</p> <p>(3rd pillar) providing this tool is an expression of the balance which CC is striking between the willingness to allow extensive freedom to use and reuse and its correspondence with the IP framework which allows creators to control the way their work is being transformed and perhaps most importantly, that guards</p>
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<p>altered.<a href="#">[76]</a></p> <p>Alongside the obligations to attribute, to not alter and to maintain non-commerciality, a few restrictions exist, and yet together with the licensee's obligation to attribute, they all mean that legally, the licensees are prevented from treating the work as their own. This means that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <ol style="list-style-type: none"> <li>1. Sublicensing. The licensee cannot design new licenses that will apply to the licensed work.</li> <li>3. (No) Freedom of using the IP right as a legal tool:</li> <li>4. Licensees cannot pursue suspected infringers (enforcement of right) for misusing the work.</li> <li>5. Extending the right (where the law requires active</li> </ol>	<p>defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>		<p>the creators ability to appropriate the value which is materialized through the use of the work. Indeed, this route is different than the one which other organizations in the free culture space. The latter highlight that ND and NC licenses prevent interoperability with other open material, or that they prevent the enmeshing of materials in the free-to-use space that are defined ND and/or NC. Admittedly, the use of ND &amp; NC licenses, does indeed create a category within the free-to-use space which is not free casting a shadow of restricted use over the space.<a href="#">[80]</a> And yet the decision that CC has taken is based on utilitarian grounds, in other words, it is based on CC's operation as a rationalizing entity which bases its decisions on a cost/benefit analysis instead of as an entity which is operating based on a purely social agenda.</p>	
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extension steps): the licensees acquire the freedoms designed by the license for the duration of IP protection. The persistence of protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead.

[\[77\]](#)

6. Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work, not just legally (by sub-licensing) but also technically.

**Direct Contribution of CC-BY-ND-NC – by pillar of contribution**

The contribution of the BY-ND-NC license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the BY-ND-NC license (the 1<sup>st</sup> pillar contribution), its

	<p>clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.</p>				
BY-NC-SA	<p>This tool enables the person who is entitled to license the work, (which is fully protected by IP rights from its inception), to allow for complete freedom to downstream uses save three conditions which are translated into obligations of the licensees.<a href="#">[81]</a> (1) The first condition is that whenever the work is used in a way that is not personally consumptive, its user</p>	<ul style="list-style-type: none"> <li>• Without any transactional costs, the licensor can permit the full range of creative downstream uses using a powerful signal that non-commercial downstream uses are strongly encouraged, while guaranteeing that the users of the work do the same (some legal downstream uses are restricted) (Cost savings).</li> <li>o This means that</li> </ul>	<p>Each licensee can freely use the work for the following purposes: personal consumption, distribution to others, adding content, or as a resource for the production of new works as long as these uses are non-commercial.</p> <p>Each licensee has a clear grasp of the range of</p>	<p>BY-NC-SA is a powerful “<b>standardization</b>” tool since it obligates continued use of the same category of tools for all down stream uses. In this sense it contributes from a very distinct perspective of nudging future users to choose the one course that is available to them which is to choose a BY-NC-SA or compatible license.</p> <p>It is important to note the special institutional implication of the clear-cut definition of a license</p>	<p>Combination of the costs of NC and SA.</p>

<p>should attribute according to the licensor's definitions for proper attribution.<a href="#">[82]</a> (2) the 2<sup>nd</sup> condition is that the downstream user is restricted in its ability to license the work which uses the work licensed as a resource to a BY-SA license or a compatible one. And (3) the user of the work cannot appropriate any of the monetary value which is encapsulated in the work.</p> <p>Alongside these obligations, a few restrictions exist, and yet together with the licensee's obligations, they all mean that legally, the licensees are prevented from treating the work as their own. This means that the restriction is not in the nature of the use of the work, but rather in the fashion in which the work as a legal artifact is treated. These restrictions are the following:</p> <ol style="list-style-type: none"> <li>1. Sublicensing. The licensee cannot</li> </ol>	<p>the licensor is empowered with the ability to add a legal layer, which was adopted singlehandedly, without reliance on other sources. (Psychological advantage)</p> <ul style="list-style-type: none"> <li>• The licensor need not fret that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee. (Cost savings, Psychological advantage)</li> <li>• The licensor will enjoy the extended distribution of the work since it is clearly marked for freedom of use.</li> <li>o Marking makes the BY-NC-SA work easily traceable as such a work</li> <li>o Marking with BY-NC-SA makes the terms of usage clear</li> <li>o Marking with BY-NC-SA sends a signal that the licensor is part of the collaborative community which impacts the usage of</li> </ul>	<p>freedoms.</p> <p>Each licensee can easily attribute relying on the other measures for attribution.</p>	<p>that allows for all non-commercial uses:<a href="#">[86]</a></p> <p>This way of structuring the license signals the willingness of the licensor to authorize a very broad range of uses. The importance of this signal is related to the uncertainty which is suffused in the current IP environment that makes the users who want to use in a consumptive fashion have to rely on the extremely unclear tenets of the exceptions to IP. <a href="#">[87]</a></p> <p>(1<sup>st</sup> and 2<sup>nd</sup> pillar) By providing a license which includes the non-commercial condition, CC is responding to a clear need of licensors who are sometimes very accepting of every use of the work that does not appropriate any of the monetary value encompassed in it. This requirement of licensor arises from the willingness to be able to either appropriate the value or to ensure that the work is never used as an economic commodity, while still encouraging the unrestricted ability of others to consume her work as is as long as they do not appropriate any of the value which is to be derived from said</p>
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<p>design new licenses that will apply to the licensed work.</p> <p>3. (No) Freedom of using the IP right as a legal tool:</p> <p>Licensees cannot pursue suspected infringers (enforcement of right) for misusing the work.</p> <p>Extending the right (where the law requires active extension steps): the licensees acquire the freedoms designed by the license for the duration of IP protection. The persistence of protection is sometimes dependent on active steps by the right holder. However, the right holder is not obligated under the terms of the license to seek that extension, and the license does not permit the licensee to do so in its stead. <a href="#">[83]</a></p> <p>Applying TPMs to the work. The licensee does not have power to restrict further use of the licensed work, not just legally (by sub-licensing) but</p>	<p>the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the licensor (investment and output in quality, quantity and variability).</p>		<p>consumption.</p> <p>(3rd pillar) providing this tool is an expression of the balance which CC is striking between the willingness to allow extensive freedom to use and reuse and its correspondence with the IP framework which allows creators to control the way their work is being transformed and perhaps most importantly, that guards the creators ability to appropriate the value which is materialized through the use of the work. Indeed, this route is different than the one which other organizations in the free culture space. The latter highlight that NC licenses prevent interoperability with other open material, or that they prevent the enmeshing of materials in the free-to-use space that are defined NC. Admittedly, the use of NC licenses, does indeed create a category within the free-to-use space which is not free casting a shadow of restricted use over the space.<a href="#">[88]</a> And yet the decision that CC has taken is based on utilitarian grounds, in other words, it is based on CC's operation as a rationalizing entity</p>	
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also technically.

**Direct Contribution of CC-BY-NC-SA – by pillar of contribution**

The contribution of the BY-NC-SA license is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the CC-BY- NC-SA license (the 1<sup>st</sup> pillar contribution), its clarity, its straightforwardness, its multi-jurisdictional consistency, its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar): the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm space (the 3<sup>rd</sup> pillar): the usage of the license which establishes the licensor as a collaborative actor.

With respect to the 3<sup>rd</sup> pillar as it refers

which bases its decisions on a cost/benefit analysis instead of as an entity which is operating based on a purely social agenda.

to the BY and BY-NC-SA framework, it is important to note that there is an argument within the free culture movement with respect to the “freedom” measure of BY-NC-SA in comparison to the “freedom” encapsulated in the BY license. Some argue that free use should mean to be able to do whatever you like with your work, including to adopt terms for its future consumption. [84] Others think of the commitment to freedom in general and thus do not want to see a work that has been dedicated by its licensor to downstream users regain its expansive IP shackles.

With respect to the mutual relationship of the 2<sup>nd</sup> and 3<sup>rd</sup> pillar to the two license tools: CC’s adoption of both license tools suggests a choice that CC has made with respect to its platform which allows the licensor to make this normative decision with respect

to downstream uses.

[85] 2<sup>nd</sup> pillar implications:

1. This is an expression of a cost-benefit analysis conducted by CC with respect to the optimal balance between internal-proliferation and providing a more customizable platform.

2. This is an expression of CC's institutional co-existence and its optimal relationship with other institutions supporting licensing framework.

3. This is an expression of CC's response to "market demand".

3<sup>rd</sup> pillar implications:

1. The mutual support of both tools is a representation of CC's normative conviction that restricting the capacity of operatives in its fields by not furnishing the BY tool is ill-fit with the characteristics of the actors in its fields

	<p>which are naturally prone for collaboration. In other words, this is not a group which should be coerced into free collaboration.</p> <p>2. The mutual support is also induced by CC's belief that the rights of the licensors (legal authors) including their ability to set the terms of future uses of their works should be protected to the fullest possible extent without fracturing too much the norms of free culture.</p> <p>3. CC's approach is therefore permissive in the sense that it includes more users as its clients and allows more uses than other platforms.</p> <p>4. CC's approach accepts the basic premises of IP which vests extensive power in the legal author.</p>				
CC+	CC+ is different than the other tools in the sense that it is used alongside each of the licenses for the	The licensor can use the CC framework to complement the terms of the adopted CC license with terms	CC+ allows CC to offer a complete set of tools that can potentially deal with every	The completeness of the platform casts CC as a global IP institution which is set apart from the statutory IP	CC+ suffers the ills of customization which undermines the

<p>purpose of customization. More specifically, it is to be used in cases where the licensor wishes to adopt the terms of one of the CC licenses to the work, but wishes to set the framework for separate arrangements for a category of cases with specific parties. This way, there is a benchmark for the terms that apply to the work that is the CC license and another set of terms associated to the work, which applies to the parties that ascribe to it.</p>	<p>that will apply in specific cases. The attachment of the additional set is facilitated by the technical framework of CC and the licensor can be sure that future licensees will be aware of the potential of the applicability of more terms, which means that the negotiation can begin with the parties having a clear idea with respect to the express wishes of the licensor. This way different types of transaction costs are diminished: negotiation costs, search costs, contract design costs. These savings add-on to the savings which are the result of the savings that accrue through the adoption of the baseline CC license.</p>	<p><i>contractual position</i> within the CC framework. In other words, the availability of CC + alongside the unified tools sets CC as a holistic framework which is suitable to deal with every circumstance which arises with respect to works of every type, as long as there exists a basic willingness on the part of the licensor to allow at least free consumptive use with no commercial implications.</p> <p>The completeness of the tools strengthens the institutional power of CC for being an organization that deals with every IP setting along a backdrop of sharing of collaboration. Users have a sense that whichever requirement</p>	<p>framework only because its users begin with a frame of mind of collaborators rather than of individualistic creators who guard what they believe is in their unique possession.</p> <p>This clearly offers an alternative environment which takes advantages as well as nurtures the natural tendency of creators to share. The ability of CC to completely replace all other frameworks suggests that it can gradually eliminate any exaggerated sense of entitlement by creators, a side-affect of the existing IP framework.</p>	<p>achievements of a uniform set of tools. These include the following:</p> <ul style="list-style-type: none"> <li>• Increased <i>uncertainty</i> with respect to works licensed under any of the tools in the platform as well as directly to works licensed under CC+,</li> <li>• Ambiguity with respect to the specific CC+ terms,</li> <li>• Depraved use of the uniform tools sens CC+ specificities,</li> <li>• Increased use of the more restrictive licenses instead of the more permissive ones, while using the customizable to permit extended freedoms to a privileged group.</li> <li>• Not all users of the work are equal.</li> </ul>
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			they have of the IP system can be fulfilled by a CC tool, and policy makers have a perception of CC which is very different than a “niche legal organization”.	
CCo	<p>Although part of the CC platform, CCo is distinct from the tools whose contributions have been described in the sense that CCo is not a license per se, but rather a tool designed to allow the IP rights holder to dedicate the work to the PD. In other words, by adopting CCo, the <i>affirmer</i> relinquishes her statutory IP rights to the extent to which the law in the applicable jurisdiction allows. In jurisdictions where the affirmer cannot authorize complete removal of the IP rights, CCo functions like a license granting the public an unconditional, irrevocable, non exclusive, royalty free license to use the work for any purpose.`</p>	<p>This tool enables the entity that is entitled to do so, the potential affirmer, to relinquish the full extent of IP rights which are encapsulated in a work from its inception, in order to allow for complete freedom to downstream uses. <a href="#">[89]</a></p> <p>The contribution of CCo is multifold (some of these advantages are also tied to the use of other tools). This advantage arises from the specific attributes of the tool (the 1<sup>st</sup> pillar contribution):</p> <ul style="list-style-type: none"> <li>• Its clarity and its straightforwardness – the tool offers a complete waiver of all rights over the work, including the right of revocation of the waiver.</li> </ul>	<ul style="list-style-type: none"> <li>• Without any transactional costs, the affirmer can relinquish the full range of its IP rights, to the extent that the legal framework permits, and thus allow for the full range of downstream uses using a powerful signal that downstream uses are encouraged. (Cost savings)</li> <li>• This means that the affirmer is empowered with the ability to add a legal layer, which was adopted singlehandedly, without reliance on other sources. (Psychological advantage)</li> <li>• The affirmer need not fret</li> </ul>	<p><b>The 2<sup>nd</sup> Pillar Advantages (institutional)</b></p> <p>As an institution CC is doing a lot to allow for the full range of potential benefits that arise out of the usage of CCo to persist.</p> <p>First, CCo is unique in its capacity as a PD dedication tool, with similar legal cross-jurisdictional implications. This allows for certainty with respect to the adopted terms, and how those terms will be perceived by cultural and legal actors all over the world.</p> <p>Second, the provision of the CCo tool did away with the harmful proliferation of the PD tools. One aspect of the decreased proliferation was achieved by striking a separation between tools designed to dedicate works to the PD and tools that were designed to mark works as belonging the PD.<a href="#">[90]</a></p> <p>The second aspect that</p>

		<ul style="list-style-type: none"> <li>• Its multi-jurisdictional consistency – in order to guarantee that the actual meaning of the adoption of CCo is consistent throughout all jurisdiction, the dedication tool include a fall back option for jurisdiction that do not allow complete revocation of IP right. In these cases, the tool transforms into a public licenses which authorizes a complete freedom of usage of the work. This way, the affirmer and user can be certain with respect to the legal status of the work following the adoption of the license.</li> <li>• Its familiarity and its content as well as attributes that are tied to the institutional strength of CC (the 2<sup>nd</sup> pillar), such as the search tools, the strength of the CC brand, the activity of CC in the norm sphere (supporting the licenses by providing amicus briefs etc.) and the contribution of CC in the norm</li> </ul>	<p>that the freedom extended to downstream licensees will be used for the curtailment of the very freedom that the licensor wishes to guarantee, because once a work has been dedicated to the PD, there is no way to harness it back to IP. (Cost savings, Psychological advantage)</p> <ul style="list-style-type: none"> <li>• The affirmer will enjoy the extended distribution of the work since it is clearly marked for complete freedom of use.</li> <li>• Marking makes the CCo work easily traceable as such a work</li> <li>• Marking with CCo makes the terms of usage clear</li> <li>• Marking with CCo sends a signal that the affirmer is part of the collaborative community</li> </ul>	<p>extenuated the proliferation was achieved by providing one single tool that allows for dedication to the PD of works of all subject matters covered by copyright.<a href="#">[91]</a></p> <p>Third, CC provides a range of auxiliary tools which permit downstream users to easily access CCoed works.</p> <p><b>The 3<sup>rd</sup> Pillar Advantages (normative)</b></p> <p>By adopting a tool designated to allow for the dedication of works to the PD, CC was using its normative power to impact the contours inside the IP environment between works that are not protected by IP and are therefore in the PD, and works that are protected by the PD.</p> <p>This extension is achieved in a few ways. The main one is by providing a tool that enables users to do what the statutory frameworks are not allowing, namely, to actively dedicate works to the PD, instead of waiting passively for this to happen according to the definition in the applicable IP framework. Obviously, this expands</p>	
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		<p>space (the 3<sup>rd</sup> pillar) all guarantee that there is certainty with respect to the persistence of the work inside the PD and as to what that means exactly.</p> <ul style="list-style-type: none"> <li>• The usage of the license establishes the affirmer as a collaborative actor. Despite the fact that the affirmer is the most collaborative of CC tool adopters, the signaling capacity of CCo of this very fact is counterintuitively weaker than the signaling capacity of the range of CC licenses. This is because alongside all the IP rights that are relinquished, the affirmer cuts all cords that associate it with the work.</li> </ul>	<p>which impacts the usage of the work.</p> <p>These direct contributions can be evaluated by using the measures defined earlier for estimation of the affects on the behavior of the affirmer (investment and output in quality, quantity and variability).</p> <ul style="list-style-type: none"> <li>• Each affirmer can freely use the work for whichever purpose: personal consumption, distribution to others, adding content, or as a resource for the production of new works.</li> <li>• Each affirmer has a clear grasp of the range of freedoms.</li> </ul>	<p>the PD substantially, first because there is this capacity, and secondly, because the existence of the capacity creates societal pressure in that direction.</p> <p>The second way is that having such a PD tool has an educational side-affect with respect to the meaning of the PD. In this sense, the users are relying on the power of the CC brand, its proliferation and its ability to ascertain exactly what it means to have the work in the PD.</p> <p><u>Third</u>, the institutional support which is offered by CC, under the 2<sup>nd</sup> pillar of contribution, has a de-facto implication of expanding the PD through the provision of the gallery of auxiliary tools that allow for easy access to the CCoed works.</p>	
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## Research Methods

Since the evaluation enterprise is intricate and multifaceted, there is no reason to be constrained to one research method. In fact, it makes much sense to make use of the advantages of each

research method for the purpose of creating a more accurate picture. For the same reason, within each research method, it is important to analyze the results under multiple different models, to maximize confidence in the results.

## **Analytical modeling**

Under this rubric, functions are designed to describe the contribution of CC, based on the theories of value sources, which have been described earlier, and then solved in order to obtain the result. In order to reach a reasonable confidence gap in the results, different framings will be applied, based on slightly different modeling of the underlying theory, and of different version of the theory itself – in terms of the interrelationship between the variable and the respective weights they have in the function.

## **Regression Analysis**

Based on general theoretical questions, the analyst can derive a number of hypotheses, with the dependent variable a different aspect of the contribution of CC. These can be tested using different regression models with the results aggregated into a confidence gap. The advantage of this method is that the different weights of the variable are exposed numerically rather than described according to a theory that may or may not be true.

## **Data Mining**

These techniques are very different than the other two, and the idea is to evaluate the contribution of CC through the extraction of patterns from the [data](#) itself. In other words, the analyst applying these methods does not need a prior theory of value, but rather, to rely on extensive amounts of data that together faithfully describe the reality of contribution and let that information expose its own logic which can later be read under different theories.

## **Data Sources**

A rigorous analysis of the contribution of CC must rely on data, or on “hard evidence”. The

importance of information gathering underlies this endeavor and is part of every research method that is proposed here, albeit in a different way; When it comes to conducting an analytical research, clearly, in order to describe the phenomenon with equations, it is necessary to understand that phenomenon, so that the proper variables and their interdependencies can be discovered. In an empirical research, data is not only important for the proper design of the equations, but also because the numerical analysis runs on a sample characterizing the phenomenon, which is being studied. Lastly, in the range of data mining techniques it is important to collect every bit of data, almost with no regard to relevance, since the patterns that this mode of analysis reveals appear through the data and cannot be predicted beforehand.

The data collection enterprise includes information gathering from different sources: First, it requires accumulation of information with respect to everything that is CC'd, by field of operation, by work, by licensor and by tool. This will allow the researcher to obtain **a snapshot view of the current map of CC-licensed content**. Second, CC will gather data that represents the prospective expansion of CC'd content or the dynamism of CC, by field, work, licensor and tool. This will enable a **mapping of the rate of CC growth in the different fields**. Third, a completely different set of facts needs to be accumulated that will expose the hype surrounding CC through time. This touches upon the meaning of the two former data items, since it is revealing in terms of prospective growth, is important for purposes of controlling for external influences, for exposing the institutional influence of CC, its normative influence, and – relevant to all – it helps discover what the use and prospective use of CC tools *mean* to users of different communities. The latter point pertains to the issue of **public perception**. Indeed, the use of CC tools can be identical in quantity but can mean different things to the users. This, of course, is important to track for the purpose of understanding what the very use can contribute to both its value as a transactional facilitator and its contribution in the copyright norm balance. This brings us to a fourth category of information which has to do with *opinions* of different communities, of different CC clients, with respect to CC as an institution, as platform and to its tools. For example, information needs to be culled about a distinct form of perception, the **legal perception**. Again, interdependent of all the rest of the data items, CC tools as well as the normative weight of CC as an organization, can be interpreted to have different legal implications and these interpretations are prone to constant

changes. Clearly, different legal meaning to a legal tool has direct implications on the value of said tool and the use of it as a self imposed default. Other examples are, of course, the social perceptions, the perceptions of CC within the sub-community of activists. Finally, and in some senses a data item which is only a subset of the rest of the data items is the issue of the extent of **reuse of CC content**. This is distinct from the mapping of the breadth of usage and prospective usage of the platform, not because it isn't relevant to the prospective breadth, but rather it is a measure of the depth of the usage, which can be analyzed for measuring CC's contribution to sharing and collaboration.

## **1: Snapshot Mapping**

Snapshot mapping means mapping out the extent of existing use of CC. The aim of accumulating data for this data category is to pick a starting point, a  $T_{CC}=0$ , to be able to refer to moment in time when comprehensive measurements begin and on top of which rigorous analysis can start to be conducted.

Looking at a particular point in time has several advantages. First, once such a mapping is achieved, it would be easier to use data that has been gathered earlier in a more sporadic manner using comparative techniques, which consider the limitations of the dataset. Second, time section data is given to different limitations than time series or panel data, and so can be used for the purposes of making the necessary corrections of the latter. Third, as is well known, a very problematic side-effect of beginning to analyze data with respect to a particular phenomenon is that this operation in itself tends to have its own influence on the phenomenon that is being studied, and in that sense it is an unintended intervention which is hard to isolate and account for. The first snap shot is for obvious reasons least prone to be affected by the very accumulation, and so in some ways it is particularly valuable for sanity testing. Like all other data items, snap shot mapping needs to be collected for each type, form, and shape of usage, with the outcome being a multidimensional data matrix.[\[92\]](#)

## **2: Dynamism or Growth Rate mapping**

This category has to do with mapping out the rate of expansion of CC'd content. The idea is to

have measures that will track the dynamic attributes presenting the different development measures over time, or the shape of the growth multi-dimensional curve. This task is complicated by the fact that it requires constant tracking and comparisons along a time line, that will enable representing statistical measures, representing the distribution and its moments. The same data measures of the former section apply, only this time, as time goes by, prospective uses will be introduced.[\[93\]](#)

### **3: Mapping reuse**

To what extent is CC content re-used? This data category is used in order to assess the success of CC in one of its primary goal for CC – to allow authors who want to promote downstream use of their works a convenient legal route. Under this category, what is accumulated is information with respect to the *history* of use of a particular CC item.[\[94\]](#)

This information will naturally be accumulated in a tree like fashion, whereby in the first level the original licensors will be found, in the second level licensees, and if one of them is not a passive user, there would be an additional third level of licensees (etc.).

### **4: Mapping Infringement**

Under this rubric, the researcher will be gathering information with respect to cases where the license terms of the tool have not been respected.

### **5: Buzz Mapping**

The online and offline notice of CC, to be tracked for status, change, and rate of change will be mentions of CC in the following arenas (offline and online): Twitter, Search engine trends, Conferences – of scholars, professionals, Scholarly papers, Newspaper references, Blog references, CC website access - By page, by time spent, Google analytics, etc.

### **6: Perception Mapping, popular, professional**

Under this rubric what is tracked are opinions (online, offline) of different communities,

prospective users, existing users, users of different types. Among the professional communities of users, the opinions of Legal professionals, of Legal activists, etc. will be tracked across location, type, role.

## **7: internal growth of CC**

Growth of network, growth of willful participants, growth of comments, growth of funding

## **8: tracking the norm horizon**

This part of the data gathering enterprise is the tracking of the environmental conditions, the trends in the IP regime and the perceptions of users. This is important, since without having access to the relevant background information, it will be impossible to rely on the products of such an analysis to reach internal strategic decisions within CC or to offer external entities sufficient measurement gauges that will enable them to make comparisons between CC and other value-generating endeavors for a variety of purposes. Moreover, this information is important for the purposes of designing the proper controls, so that only the value which should be rightfully attributed to CC will in fact be attributed to it, and for the purposes of measuring said impact.

## **Final Words and What's Next**

Despite the importance of the enterprise promoted in this document, it is important to keep in mind one caveat which is that there is plenty of merit and a lot of sense in continuing on emphasizing CC's contribution in a more qualitative, general, abstract and descriptive way instead of relying exclusively on raw facts. The reason for the importance of not losing track of the forest by counting the trees, is that this is a case where data collection and analysis, as was described in former sections, is very complicated, extremely burdensome and given to never-ending challenges due to the nature of the data and the range of ways it can be represented. In fact, one could validly claim that it is an intractable task to draw up the data and conclusions in a way that will persuade everyone for a lengthy period of time; this, while the fact that CC as a platform and organization contributes to welfare in a very substantial way is as clear as the sun.

This document is only a foundational document set to instantiate a rigorous evaluation enterprise. Obviously, it is just an invitation for scholars and professionals to start thinking about the contribution of CC as a leading enterprise in the field. If one were to follow on with the proposed framework, the next steps will be to finalize basic structure of the study, cull existing data sources (ongoing), design data collection enterprises, provide theoretical excuses for what is being left out, implement design (can continue while going through the following stages), complete metrics definition and operationalize variables for next stage, define analytical, empirical frameworks for each value field. At this point it will be possible to conduct the study, analyze results and deduce future steps. Indeed, once this project begins, it is never ending, since CC is a living enterprise, in constant action, operating to impact a dynamic environment, influenced by other sources.

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[1] Chakravart, Bentley MacLeody, Surajeet, *On the Efficiency of Standard Form Contracts The Case of Construction*, “Given that these form construction contracts have survived in a competitive market for many years, then one can suppose that they are a reasonably efficient solution” (<http://www.irs.princeton.edu/pubs/pdfs/495.pdf>, last visited 8.31.2010)

[2] but, see e.g. DOUGLAS HUBBARD, *HOW TO MEASURE ANYTHING, FINDING THE VALUE OF “INTANGIBLES” IN BUSINESS* (2007)

[3] Note that all of these suggest that the very fact of carrying out the study itself will impact the ability of CC to generate value. This in turn translates into a general problem with studies such as these; they themselves generate operate on the field of their study. Indeed, the way that we propose to deal with requires reliance on the assumption that the research outputs do not have independent impact on the value generated by CC which isn’t moderated by the decisions that the study leads the organization to take. Or instead, that if there is such separate influence of the study itself, that it is only marginal and can be omitted from the analysis.

[4] Both 2009 Economics Nobel laureates, Williamson and Elinor Ostrom, are cited for their analyses of “economic governance”. By this term, what is being referred to is the structure and functioning of the legal and social institutions that support economic activity and economic transactions. The term “economic” is naturally extended to encompass other types of social interactions, which have long been deemed as directly related to welfare as well as indirectly through its effects on the market. Analysts commonly present proof that optimal governance would be achieved by “protecting property rights, enforcing contracts and taking collective action to provide physical and organizational infrastructure.”[4] To top this, innovation experts have augmented this definition to include intellectual property rights, which are usually cast as contributive in a similar way to general property rights.

[5] for the downside of this, see Elkin-Koren, Niva, *Creative Commons: A Skeptical View of a Worthy Pursuit. THE FUTURE OF THE PUBLIC DOMAIN*, P. Bernt Hugenholtz & Lucie Guibault, eds., Kluwer Law International, 2006.

[6] This is a challenge posed by ANDREW KEEN, *THE CULT OF THE AMATEUR: HOW TODAY'S INTERNET IS KILLING OUR CULTURE* (2007)

[7] see, FRED BROOKS, *THE MYTHICAL MAN-MONTH: ESSAYS ON SOFTWARE ENGINEERING* (1995)

[8] see, e.g., Molly Van Houweling, *Author Autonomy and Atomism in Copyright Law*, 96 Va. L. Rev. 549 (2010), citing Benkler :

“Critics have decried this increased propertization of creative works as a “second enclosure movement”<sup>7</sup> that limits the ability of creative individuals to harness new technology to build upon existing cultural artifacts. Yochai Benkler worries, for example, that “information production could be regulated so that, for most users, it will be forced back into the industrial model, squelching the emerging model of individual, radically decentralized, and non-market production and its attendant improvements in freedom and justice.” (YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* 9 (2006))

[9] Robert Merges, *A New Dynamism in the PD*, 71 U. CHI. L. REV. 183, 199 (2004): “to preclude property rights entanglements on a key input.” As explained in an article by Yochai Benkler (Yochai Benkler, *Coase’s Penguin, or, Linux and The Nature of the Firm*, 112 Yale L.J. 369, 441 (2002), citing Free Software Foundation, *GNU General Public License* (June 1991), online at <http://www.fsf.org/copyleft/gpl.html> (visited Dec 16, 2003). “In free software, the risk of defection through . . . appropriation is deemed a central threat to the viability of the enterprise, and the GNU GPL [open source license agreement] is designed precisely to prevent one person from taking from the commons, appropriating the software, and excluding others from it.” In other words, by eschewing property rights, a large number of independent contributors can create and integrate components into a single, useable asset with minimal transaction costs.

[10] The modularity of the licenses controls this cost. See, Margaret Jane Radin, *Commentary, Boilerplate Today: The Rise of Modularity and the Waning of Consent*, 104(5) Mich. L. Rev. (2006)

[11] Jacobsen v. Katzer, and [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1372040](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1372040)

[12] Merges, Robert, *A New Dynamism in the Public Domain* (2004), p. 19: “no private framework will ever “In addition, statutory notice sidesteps a second problem with licensing schemes—the issue of contractual privity. Although it may be difficult as a practical matter to strip out licensing information from digital content, it is probably not impossible. From another perspective: “In conjunction with these two themes, I will touch upon the interplay of standardization and customization; the dialectic of rules and standards; the collapse of the distinction between the contract and the product it relates to; the problem of shoring up (or replacing?) the liberal notion of freedom of the will; and the allied issue of the political status of the regime of private ordering.” <http://www.michiganlawreview.org/assets/pdfs/104/5/Radin.pdf>. Others think that this is a necessary evil which is part of the solution. See for e.g.: “But, legal rules result in sub-optimal solutions due to public choice problems we can envisage market corrections to the law, through contractual means. In other words, individuals who favor a greater PD at the expense of propertization are likely to channel their political activities to the market instead of the political sphere. Indeed, the CC project is exactly a contractual shift from the legal regime”, Eli M. Salzberger

[13] The relevant literature that is relevant to the value analysis of the contribution under the 1<sup>st</sup> pillar for is expansive. It includes the literature that analyzes market transactions and what makes them more or less efficient, the literature considering incomplete contracts, the one considering unified and boiler plate contracts and contracts of adhesion and their welfare implications, the relevant strands in the literature that considers the boundaries of rationality and behavioral constraints and the literature that considers the importance of contractual efficiency from the viewpoint of contractual effectiveness as it is affected by different conditions of certainty.[13] A relevant subset within this literature considers the importance of interoperability of different legal tools. To the extent that there is such separate literature in existence, the literature that considers the efficiency of legal tools that are effectively built into the work itself, is clearly relevant as well.

The contribution of each tool is considered inside this document in its distinctiveness from the rest.

[14] Possibly, as technology progresses to a full implementation of the semantic web, when search capabilities progress as tagging technologies are fully implemented to allow clear authentication, the optimal level of the fragmentation or proliferation will increase. CC’s long tradition of gauging the environment to which it is dedicating its platform, suggests that it will be up for the challenge as soon as it presents itself.

[15] *supra* note 10

[16] “legal rules result in sub-optimal solutions due to public choice problems we can envisage market corrections to the law, through contractual means. In other words, individuals who favor a greater PD at the expense of propertization are likely to channel their political activities to the market instead of the political sphere. Indeed, the CC project is exactly a contractual shift from the legal regime (Eli M. Salzberger)

[17] There is widespread belief that CC is highly successful in this respect. See for e.g.,: “Our proposed strategy builds on an ongoing, yet largely unnoticed, dynamic that has developed in the digital realm: many owners and distributors of digital content have chosen, on their own accord, to expand user privileges. Furthermore, they have developed innovative approaches for granting users access to content, reflecting, as the examples discussed herein make clear, more than some quirk of a few firms acting against interest. Rather, this dynamic represents a rational, self-interested response of firms to market pressures (i.e., a demand for such opportunities). From the standpoint of copyright policy analysis, therefore, the behavior of these firms constitutes a real world experiment that can provide valuable guidance on the formulation of user privileges in the future. (Beyond

Fair Use Phil Weiser Gideon Parchomovsky [Cornell Law Review, Vol. 96, 2011](#)), Yuval Feldman & Janice Nadler, *The Law and Norms of File Sharing*, 43 SAN DIEGO L. REV. 577 (2006); Ben DePoorter & Sven Vanneste, *Norms and Enforcement: The Case Against Copyright Litigation*, 84 OR. L. REV. 1127, 1157 (2005). See also, owners who do not partake of the CC approach must take account of the terms offered to users as part of the CC project and adjust their own terms accordingly. It is quite possible, for example, that the licensing options embedded in the CC project will become an outlet for the social norms arising from user expectations we described above. In that sense, they may well operate as “sticky defaults”—i.e., norms and expectations of users that content owners must cater to—and thereby shape the terms offered to users in all copyright related transactions. (Beyond Fair Use Phil Weiser Gideon Parchomovsky [Cornell Law Review, Vol. 96, 2011](#))

[18] This estimation, abstract or quantifiable, requires proof, or at least a presumption that it is in fact welfare enhancing to nudge the norm space in the direction of free culture. The literature that can be drawn upon in order to assess the value of nudging Intellectual Property norms is the literature, which takes issue with proving the utility of IP norms which usually takes the proprietary model as baseline. The caveat is that this literature itself is found wanting due to the very same challenges identified in the next subsection. A different strand of relevant literature is the literature analyzing the evolution of norms in the commons, the literature that gauges the importance of the PD and the literature considering the benefits of the exceptions to IP norms.

[19] International Intellectual Property norms have gradually expanded IP rights, as will attest the trend that evolved in TRIPs, TRIPs + and now in the ACTA debates, and also, the same is true in the domestic environments. For example, The **Copyright Term Extension Act** (CTEA) (the Sonny Bono act, the DMCA, the setting of sui generis regimes such as Semiconductor Chip Protection Act of 1984, 17 U.S.C. §§ 901-14

[20] Despite all that has just been said, CC is not the first to try and gauge prospective shifts in the set of norms that govern creative efforts, and these can be customized and applied for the measurement of the range of CC benefits. For example, there have been efforts of estimation of the value induced by a particular IP setting in different environments, as well as other norms that govern different fields of creation. Examples include User Generated Content norms references, Patent law references. But, there was hardly any work conducted to analyze, for instance, the costs and benefits of copyright term extension.

[21] among the many organizations that exist in this space, one can count the Open Knowledge Foundation, Free Software Foundation and the Internet Archive, to name just a few.

[23] For example, open source software.

[24] This enables CC to impact the extension of the PD: “Because the care and feeding of the PD is an important goal shared by everyone in the IP system, I argue below that we ought to find ways to encourage this behavior” Robert Merges, *A New Dynamism in the PD*, 71 U. CHI. L. REV. 183, 199 (2004)

[25] Economic Analysis of the Public Domain, Eli M. Salzberger

[26] CC is being “the lawyer” instead of “the Stallman” and thus cannot enjoy the same type of faithful, energetic support.

[27] See for e.g., DOUGLAS W. HUBBARD, *HOW TO MEASURE ANYTHING FINDING THE VALUE OF "INTANGIBLES"*

[28] This is often disregarded by studies which have been conducted in order to estimate the contribution of specific enterprises. See e.g. Houghton, B. Rasmussen & P. Sheehan, *Economic and Social Returns on Investment in Open Archiving Publicly Funded Research Outputs*, (2010).

[29] Thomas Rogers Andrew Szamoszszegi Capital Trade, *Fair Use in the US Economy, Economic Contribution of Industries Relying on Fair Use*, Computer & Communications Industry Association, for example, considered the contribution of the “Fair Use” industries to the US economy.

[30] See e.g., id.

[31] The World Bank recognized that measuring total wealth as the sum of its components – including human, social and institutional capital - makes intuitive sense, but claimed that it is constrained by data and methodological constraints.

[32] <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTEEI/o,,contentMDK:21005436~pagePK:210058~piPK:210062~theSitePK:408050,00.html>, last visited 8.13.2010

[33] id. At 29.

[34] Rufus Pollock, *The Value of the Public Domain*, referring to cases that prove in a prima facie way p. 8: “First, the fact that most societies have, at the very least, firmly excluded general ideas (that is, those without ‘industrial application’), as well as mathematical algorithms and business processes<sup>5</sup> from patentability indicates that the social costs involved in privatising these types of knowledge outweigh the benefits. Second is the fact that in all countries non-private sources (such as governments and charitable foundations) account for a substantial – and in some cases a majority – of expenditure on research and development<sup>6</sup> (OECD 2005). Combined with the extensive evidence on spillovers from public to private R&D, such figures clearly indicate that all

societies identify significant benefits in maintaining a system of public R&D and open science, not only for its own sake but also to act as a complement to, and input into, private, commercial activities<sup>7</sup>. Third is the growing body of evidence of the difficulties caused by the proprietisation of science” this is just one example of intuitive analysis.

[35] see e.g. Paul M. Romer, *Endogenous Technological Change*, 98(5) J. Pol. Econ. *The Journal of Political Economy* (Oct., 1990), pp. S71-S102

[36] Knowledge Exchange comparative report on Costs and Benefits of Open Access, Open Access – What are the economic benefits?, A comparison of the United Kingdom, Netherlands and Denmark, analyzing open access models of a particular activity, that of scholarly publications. <http://www.knowledge-exchange.info/Default.aspx?ID=316>, last accessed, 8/18/2010. And the study on open access to libraries. (reference)

[37] *Id.*

[38] see e.g. Galenson, David W., *Understanding Creativity* (May 2010). NBER Working Paper Series, Vol. w16024, pp. -, 2010. Available at SSRN: <http://ssrn.com/abstract=1613070> & Galenson, David W., *Analyzing Artistic Innovation: The Greatest Breakthroughs of the Twentieth Century* (May 2006). NBER Working Paper Series, Vol. w12185, pp. -, 2006. Available at SSRN: <http://ssrn.com/abstract=900091>

[39] *id.*

[40] happiness metrics, creativity metrics.

[41] *supra* 38 – artists as innovators. This is the value of an artistic work. The value of it as an innovation - Conceptual and experimental novelty – both can be achieved easier with aid of others, in collaboration. According to Galenson’s framework, however, “They build their skills gradually, and their innovations appear incrementally in a body of work. In contrast, conceptual innovators use their art to express ideas or emotions. Their goals are precise, so they plan their works, and execute them systematically. Their innovations are conspicuous, transgressive, and often irreverent. These innovations appear suddenly, as a new idea produces a result different not only from other artists’ work, but also from the artist’s own”

[42] *supra* note 8.

[43] for example, these maybe actors who are negatively impacted by coming to realize that they are operating in a legal environment which is suffused with rights and obligations. See for example, *supra* note 5. From another direction altogether, there is a sense in which people sometimes analyze the existence of too many actors who partake in an enterprise as detrimental (sturgeon law). In other words, this suggests that CC can sometimes be too efficacious and harm an activity. (add this comment to the collaboration part)

[44] [http://learn.creativecommons.org/wp-content/uploads/2009/01/license-mapping-report-15\\_dec\\_-2008-black-and-white-v2.pdf](http://learn.creativecommons.org/wp-content/uploads/2009/01/license-mapping-report-15_dec_-2008-black-and-white-v2.pdf) - “What status for “open”? An examination of the licensing policies of open educational organizations and projects. The copyright licenses or terms of use associated with some OERs are difficult to find or to understand; The majority of OER projects or organizations have adopted a standardized license created by an independent license provider, and of these, the large majority have adopted one or more of the six CC copyright licenses (“CC licenses”) to define the terms of openness. But, a sizable minority of OER providers have chosen to craft their own license – often borrowing terms from one of the standardized licenses. Thus, as a group, OER providers have adopted a diverse, and often customized, set of license conditions that in some cases require significant work by users to understand; and The usefulness of OERs as a group is limited by incompatible license conditions that functionally prohibit combination or adaptation of OERs provided by different sources. From these findings, cLearn derives three recommendations for the OER community: OER license terms should be easy to find and to understand by users and their search tools; OERs should be governed by standard license terms to facilitate use; and OER licenses should be mutually compatible whenever feasible to facilitate collection, adaptation, and recombination of OERs from multiple sources. As the majority of OER providers recognize, CC licenses were designed to solve each of the three problems identified in the findings. With respect to the problem of license obscurity, all CC licenses are easily found through the use of icons linked to a brief description of the core license terms and machine-readable metadata that represent the license chosen. CC licenses are standardized around six combinations of terms. However, not all CC licenses are mutually compatible, a result of the fact that CC licenses were designed to serve the needs of a wide range of creators.

[45] This analysis is widely attributed to Demsetz who published his paper, *Toward a Theory of Property Rights*, in the *American Economic Review* in 1967

[46] Cognitive surplus

[47] A comparable analysis has been conducted by Eric von Hippel and Georg von Krogh, see e.g., “Open Source Software and the “Private-Collective” Innovation Model: Issues for Organization Science” (2003) *Organization Science* 14 (2)208-223, where they explain the success of Open Source Software projects.

[48] Behavioral Law and Economics, Law and Economics scholars have long observed that vague standards cause over-deterrence. (R. Polk Wagner, *Information Wants to Be Free: Intellectual Property and the Mythologies of Control*, 103 COLUM. L. REV. 995 (2003)), James Gibson demonstrated how the vagueness of intellectual property doctrines, including fair use, forces users to secure licenses even when they do not necessarily need to do so and how this dynamic enables rightsholders to expand their rights at the expense of users and the general public.

[51] Obviously, this tool is prone to all of the problems that are tied to international legal documents – the fact that they may be interpreted differently in different national legal regimes that have different legal traditions.

[52] The licensor may be legal author, or another entity which is entitled to license the work, partially or fully.

[53] It is important to note that most national IP regimes guard forever some of the rights of the author. These obviously constrain the range of what downstream users can do with the work.

[54] Despite the fact that the term which is being used in the license is “perpetual”.

[55] The licensor may be legal author, or another entity which is entitled to license the work, partially or fully.

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[62] Clarifying verdict in the Netherlands (Curry v. Weekend, decision handed down in March 2006).

[63] Despite the fact that the term which is being used in the license is “perpetual”.

[64] See e.g. China – Measures Affecting the Protection and Enforcement of Intellectual Property Rights Report of the Panel, WT/DS362/R, 26 January 2009

[66] *supra* note 62.

[67] [Open Knowledge Foundation Blog, Why Share-Alike Licenses are Open but Non-Commercial Ones Aren't](#), June 24th, 2010 (last visited 9.3.2010).

[68] The licensor may be legal author, or another entity which is entitled to license the work, partially or fully.

[69] It is important to note that most national IP regimes guard forever some of the rights of the author. These obviously constrain the range of what downstream users can do with the work.

[70] *supra* note 62.

[71] Despite the fact that the term which is being used in the license is “perpetual”.

[72] references to the literature which analyzes the depraved motivation which is the result of uncertainty with respect to the legal environment.

[73] [Open Knowledge Foundation Blog, Why Share-Alike Licenses are Open but Non-Commercial Ones Aren't](#), June 24th, 2010 (last visited 9.3.2010).

[74] The licensor may be legal author, or another entity which is entitled to license the work, partially or fully.

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[76] *supra* note 62.

[77] Despite the fact that the term which is being used in the license is “perpetual”.

[78] *supra* note 62.

[80] [Open Knowledge Foundation Blog, Why Share-Alike Licenses are Open but Non-Commercial Ones Aren't](#), June 24th, 2010 (last visited 9.3.2010).

[81] The licensor may be legal author, or another entity which is entitled to license the work, partially or fully.

[82] It is important to note that most national IP regimes guard forever some of the rights of the author. These obviously constrain the range of what downstream users can do with the work.

[83] Despite the fact that the term which is being used in the license is “perpetual”.

[85] refer back to the part which considers the internal proliferation of CC licenses.

[86] *supra* note 62.

[88] [Open Knowledge Foundation Blog, Why Share-Alike Licenses are Open but Non-Commercial Ones Aren't](#), June 24th, 2010 (last visited 9.3.2010).

[89] The affirmer may be legal author, or another entity which is entitled to affirm this complete waiver of the rights to the work. It is important to note that most national IP regimes guard forever some of the rights of the author. These obviously constrain the range of what downstream users can do with the work.

[90] Replacing such tools as the PDDC.

[91] The PDDL, for example, is a dedication tool designed for databases.

[92] The matrix will contain the following dimensions: license, version, field, platform, geographical location, language, entity category Offline/Online use

[93] The matrix will contain the following dimensions: license, version, field, platform, geographical location, language, entity category, offline/online use, as well as prospective license, prospective version, prospective field, prospective platform, prospective geographical location, prospective language, prospective entity category

[94] For example, Johnny licensed a blog post BY-A, a license Meg relied on when she created a lesson plan using Johnny's post, as well as Rita's blog post licensed BY-SA, which she then licensed BY-SA.