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## Quality as a Community Norm on YouTube and Beyond

**Elettra Bietti**

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### **Abstract**

*User-based internet platforms are changing our understanding of “quality”: from a value shaped by experts in closed hierarchical spaces to one shaped by internet users and software developers in a more open, yet not more transparent, digital landscape. “Quality curation” on the internet is both more public, and more private than offline; both more malleable and less controllable by lay internet users. The potential for increased transparency is immense but not achieved. What is the best understanding of “quality” on the internet and what does it entail for the design of internet platforms? The paper answers this question through the study of quality accreditation in user-generated online video, by contrasting YouTube and Vimeo’s designs. It argues that “quality” is only meaningful in its public dimension, as a notion to be questioned in public through open, conscious debates. Quality is not what results from un-transparent collaborative filtering algorithms, or the algebraic sum of isolated users’ walled experiences. The paper explains why the distinction is important, explores a variety of ways through which quality is regulated online and suggests solutions for policy-makers and web designers to strike the right balance between quality curation and users’ private experiences when designing user-based platforms.*

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When in December 2011 YouTube unveiled a new interface design based on accredited “channels,” a YouTube star with a popular YouTube channel (*MysteryGuitarMan*) saw his average video views drop by around 60%:<sup>1</sup> a sudden drop in popularity and ad revenue.<sup>2</sup> A number of factors – not always fully disclosed - are at stake in defining popularity metrics and the number of views a video acquires on YouTube.<sup>3</sup> Due to some changes in the site’s underlying code Penna’s videos were suggested to users in less effective ways, or to users less interested in them. The result was a loss in *popularity* for videos of objectively the same *quality*. This story shows two things. First, that the design of a website influences the way people behave on it: when design changes, behavior changes. As Lawrence Lessig first pointed out, the code underlying a website is its constitution, like laws in a state code shapes practices and affects interests.<sup>4</sup> The way those design features are defined must thus be open to public discussion in a similar way to the passing of a new law. It is therefore important that the coded skeleton of a website be as visible, transparent and open to criticism as possible. Second, the story shows that a drop in views can change a video’s popularity (the number of views are a form of popularity metric) while leaving the intrinsic artistic and cultural value of the video, which I here name its *quality*, intact. In spite of a tendency to confuse them, *quality* - i.e. the intrinsic value of a video - is distinct from quantitative metrics such as *popularity* or *economic success* and has a measure of its own. In what follows, I construe “quality” as a standard defined on a case-by-case basis through the judgment of human “raters,” and not machines. Any measure of quality properly so called must be malleable enough as to be constantly reinvent-able. Thus the more the quality certification process – along with the code underlying it - is open and malleable, the more it can fit the intuitive understanding of quality I adopt in this paper.

The overall aim of the paper is to understand whether and how far openness and *curation* can go hand-in-hand. In other words, if the YouTube platform is a garden, how far can it be a well curated garden when people are allowed and actually encouraged to enter and plant their seeds? Under what conditions can people make a better-looking garden by entering and planting their seeds? The answers, of course, are varied. At a practical level is the question of what guidelines a web developer ought to follow when regulating devices, platforms, or websites with the aim that neither quality nor openness be neglected.

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<sup>1</sup> See <http://www.youtube.com/user/MysteryGuitarMan/featured>, and [http://www.reddit.com/r/IAmA/comments/r2ct5/i\\_am\\_joe\\_penna\\_aka\\_mysteryguitarman\\_ama/c42cscb?context=3](http://www.reddit.com/r/IAmA/comments/r2ct5/i_am_joe_penna_aka_mysteryguitarman_ama/c42cscb?context=3)

<sup>2</sup> This was subsequently corrected by a new algorithm which put Joe Penna back into the position of popularity he had been in before the new homepage. (*MysteryGuitarMan: YouTube’s relaunch killed my traffic*, GIGAOM.COM, Mar. 19, 2012, 12:32pm PT, available at: <http://gigaom.com/video/mysteryguitarman-youtube-new-homepage/>)

<sup>3</sup> See “Why do YouTube views freeze at 301?” a video available on YouTube at: [http://www.youtube.com/watch?feature=player\\_embedded&v=olkhgagvrj#!](http://www.youtube.com/watch?feature=player_embedded&v=olkhgagvrj#!)

<sup>4</sup> Lawrence Lessig, *The Laws of Cyberspace* (1998), available online at: [http://www.lessig.org/content/articles/works/laws\\_cyberspace.pdf](http://www.lessig.org/content/articles/works/laws_cyberspace.pdf) and see also his account of regulation in CODE: AND OTHER LAWS OF CYBERSPACE, VERSION 2.0, (Basic Books, 2006). Also available at: <http://codev2.cc/download+remix/Lessig-Codev2.pdf>, especially Chapter 7 entitled *What Things Regulate*

Two principal arguments are at play in the paper: first, the argument in favor of openness and crowd-sourced participation to the definition of quality standards and of freedom of action for users, and second, the argument against a reductive view of quality standards as mere signals of popularity or algebraic sums of preferences. These are ultimately two sides of an argument grounded in the core idea that quality is not a fixed standard but a contextual, malleable notion constantly to be debated, and that well-thought constraints on the crowd's decision-making ability make crowd-sourced decisions more legitimate and valuable. The focus is on online user-generated video platforms with an emphasis on the contrast between the way two sites - YouTube.com and Vimeo.com – have been conceived and designed. The paper divides into two main areas of inquiry: (1) How is quality best understood on the internet? And (2) How are certain mechanisms of quality accreditation and promotion to be assessed and used in light of our understanding of quality in (1)? The paper answers these questions in turn.

## I. What we mean when we say “quality”

“Quality” and “video quality” are here taken in their aesthetic dimension as synonyms of the aesthetic and cultural value of a video, not in the technical sense of the quality of video transmission.<sup>5</sup> Quality is a comparative standard, loosely defined as “the standard of something as measured against other things of a similar kind; the degree of excellence of something,”<sup>6</sup> that which is superior or not inferior to something else,<sup>7</sup> etc. In qualifying quality we are faced with a tautology, which illustrates the complexity of the concept.

Any claim or judgment about the quality of a video is subject to two criticisms: a judgment can be criticized for being merely subjective and thus irrelevant, or alternatively for being objectively unjustified by reference to principle or reason or by contrast to some better-chosen conception about what a video should look like. YouTube provides a living example of the way people criticize each other's quality judgments: scrolling through the comments that users make at the bottom of any video, one notices criticisms and praises of the video itself and also attacks on other people's comments. In other words, someone will always find our judgments about quality wrong. Yet, does the fact our judgments are criticized make them *incorrect*? Or (a philosophically distinct question) does it mean we are *wrong* in making them? If, as some might argue, the subjection to public criticism makes any and all quality judgments wrong, then perhaps it would be best to avoid expressing any judgments and adopting a procedural or formal view. But a formal view is, as seen below, reductive. Instead, in analyzing quality as a concept I

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<sup>5</sup> For more on the latter see the Wikipedia entry “Video Quality” (at: [http://en.wikipedia.org/wiki/Video\\_quality](http://en.wikipedia.org/wiki/Video_quality)) or see Wang Z. et al., *Objective video quality assessment*, in THE HANDBOOK OF VIDEO DATABASES: DESIGN AND APPLICATIONS (2003) 1041–1078

<sup>6</sup> OXFORD ENGLISH DICTIONARY, (Second Ed. revised, 2005)

<sup>7</sup> See Wikipedia entry “Quality (business)” at: <http://en.wikipedia.org/wiki/Quality>

I first explore formal understandings of quality: understandings that define quality as the outcome of a properly designed process. Finding that a formal understanding is not sufficient to explain the concept of quality in its entirety, I then analyze substantive understandings of quality asking how substantive quality can best be construed to make sense as a substantive guiding principle for the design of structures and institutions in cyberspace, in particular with regard to online video. If it is to serve as a guiding concept, quality must be interpreted in light of the internet's potential to connect people, to create public dialogue, not its potential to create divides. This interpretation can then serve as the basis for a practical reconsideration of *how* quality is a principle to be taken into account when designing the infrastructure of user-based video platforms on the internet.

### **I.1. A word on “elitism”**

When I discuss my view of quality with others, I promptly acquire the label of an “elitist.” I would not deny such label if it weren't *somewhat* misplaced. Let me therefore say a few words on the different ways that elitism can be understood, and what kind of an elitist I consider myself to be.

As of today,<sup>8</sup> Wikipedia offers the following definition of “elitism”: “the belief or attitude that some individuals, who form an elite—a select group of people with a certain ancestry, intrinsic quality or worth, higher intellect, wealth, specialized training or experience, or other distinctive attributes—are those whose influence or authority is greater than that of others; whose views on a matter are to be taken the most seriously or carry the most weight; whose views or actions are most likely to be constructive to society as a whole; or whose extraordinary skills, abilities, or wisdom render them especially fit to govern.”<sup>9</sup> Reformulating, elitism is almost a synonym of aristocracy in the Aristotelian sense. Cultural elitism would therefore be the view according to which some highly cultured, tasteful, gifted individuals have a better right to say what is good or bad for an audience than the audience itself. This easily degenerates into snobbism.

As for me, I do not believe that some individuals are innately or by education better placed to impose on others what videos are of good or bad quality. I make the opposite claim: I believe that substantive standards of quality exist and that because they are important, they should be taken seriously by all internet users, be they video-makers, viewers, or people employed at YouTube. Claiming that our view is to be taken seriously is what we all do when we comment on YouTube videos: we express our judgments because we believe we have a point. This does not mean someone has the right to impose on us their view of quality because we all have a similar right to express our views. However if you define elitism as the idea that substantive quality standards exist, I am without doubt an elitist. As an economist

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<sup>8</sup> 03/31/2013

<sup>9</sup> <http://en.wikipedia.org/wiki/Elitism>

once put it to me, I believe that there can be objective vertical differences among horizontally differentiated goods. What follows clarifies this view.

## **I.2. Formal approaches to video quality**

The most effective way of avoiding the peril of falling into elitism is to deny that quality can have a substantive meaning distinct from the subjective preferences of individuals: if the concept of quality has no substantive content, then no one can claim to understand it better. According to this view, the safest way to deal with quality issues is to frame them as issues about the formal structures that are necessary for people to independently and freely choose the content they like. Note that under this view no claim is made about what people should or should not like: total freedom of choice and a proper structure for maximizing the freedom to choose are the guiding principles. Such a view is highly appealing on the internet, a networked structure whose nodes - internet users - are free and responsible yet lack expertise.

### **I.2.a. Invisible hand explanations**

The term “invisible hand explanations” was coined by Robert Nozick in *Anarchy State Utopia*<sup>10</sup> who makes reference to Adam Smith’s famous idea in the *Wealth of Nations* that when a man acts selfishly intending “only his own gain” he in fact acts as if “led by an invisible hand to promote an end which was no part of his intention”<sup>11</sup> thus benefiting the economy as a whole. Invisible-hand explanations for Nozick explain an outcome or a state of affairs by appeal to some process or chain of events that is unrelated to the intent of bringing it about.<sup>12</sup> Nozick finds this type of explanations “more satisfying” than explanations that appeal to some pre-existing “pattern” or design because the former avoid the biases that design explanations carry with them. Nozick offers a list of examples of invisible hand explanations including Hayek’s idea in *The Constitution of Liberty* that the case for individual freedom lies in human ignorance, that the knowledge of each human being has the same value, and in particular that the knowledge of the most ignorant is as important as the knowledge of the wisest of humans. The upshot of this is a liberalist institutional framework that allows individuals the freedom to make mistakes and minimizes coercion.<sup>13</sup> Invisible hand explanations can be said to arise when a patterned

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<sup>10</sup> ROBERT NOZICK, (1974, Basic Books) pp. 19-22

<sup>11</sup> ADAM SMITH, 1776, Book I Chapter VII. Smith referred to an “invisible hand” also in THE THEORY OF MORAL SENTIMENTS (1759), Part IV, Chapter 1

<sup>12</sup> *Ibid.* Nozick, p 19

<sup>13</sup> F. A. HAYEK, THE CONSTITUTION OF LIBERTY (Chicago University Press, 1960), p. 29-30

outcome is the result of individuals acting (1) in an ordinary way and (2) guided only by their individual beliefs, intentions, goals and actions and not by a pattern or design that they wish to bring about.<sup>14</sup>

The interest of invisible hand models does not stop short of its explanatory function for patterned outcomes. We may also twist the model upside down and ask: given a set of conditions that are given on the internet (e.g. decentralized networked structures of powerful and inexpert human users), what formal structure is necessary to lead to more quality content without imposing any of our pre-conceived ideas about quality? To tailor the model in such a way to the problem, it is enough to find some basic ordinary act that every individual user performs on the internet and that roughly constitutes a signal to the world (such as a red light/green light sign) about what they tend to prefer: subjective individual preferences.

### **I.2.b. Subjective individual preferences**

David Hume considered judgments about beauty to be directly caused by the amount of pleasure an object produces in us. According to Hume, the experience of beauty is individualized and subjective and can hardly be shared with others.<sup>15</sup> In assessing how much you like a given video posted online, therefore, you are for Hume alone and isolated because your judgment cannot be assessed against or compared with any other viewer's view.

The upside of Hume's lonely and isolated view of aesthetic appreciation is in the *collective* dimension that subjective individual preferences acquire once aggregated: individual preferences aggregated into algebraic sums of pleasure and pain allow us to construct an approximate definition of quality, as society as a whole in a disorderly fashion has chosen it to be. We may thus derive a notion of the *good* (the quality or value of a video) from the aggregation of what people *like* (their subjective preferences, likes, views of it) without imposing on the notion of quality any pre-constructed value (such as "all Harlem Shake videos are great"). In so doing we twist the invisible hand device showing not how to explain a given institutional or cultural status quo but rather how the individual preferences of internet users may serve as a design tool to reach desired outcomes through the leverage of adequate incentives. Twisting it as we do transforms the invisible hand model into a design tool: *crowdsourcing*.

On the internet incentives are extensively leveraged to harness the potential of subjective individual user preferences: sites such as Amazon, Netflix, Facebook to quote but three examples use individual ratings to develop their systems of prioritization, suggestion, monetization and promotion of

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<sup>14</sup> Edna Ullmann-Margalit, *Invisible-hand explanations*, 39(2) HUMANITIES, SOCIAL SCIENCES AND LAW, (1978), 263-291, available at: <http://www.springerlink.com/content/np4n67lq08527w62/>

<sup>15</sup> See DAVID HUME, A TREATISE OF HUMAN NATURE, (L. A. Selby-Bigge (ed.), 2nd ed. revised by P.H. Nidditch, Oxford: Clarendon Press, 1975)

content. On the internet the widespread decentralization of assessment<sup>16</sup> allows the creation of *ex post* quasi-standards, possibly in real time. Two paradigmatic examples of raw and un-reflected individual preferences expressed in relation to user-generated online video are “likes” and “views”. Both are pervasively taken as signals of quality by video-makers, users and web developers and are extensively discussed in Part II.

### I.2.c. Form v. Substance: Problems

Based on the premise that pre-imposing a normative view of quality is to be avoided at all cost, formalism is a very appealing theory to policy-makers: it avoids complex normative evaluations, it is arguably the most efficient means of leading to the greatest satisfaction of the greatest number of individuals, and it is legitimated by the fact that no value is possibly as primary and fundamental as the pleasure or pain that an aesthetic perception produces in us.<sup>17</sup>

Nonetheless, formalism has its downsides. First, in practice it appears incorrect to say that non-interference with the crowd’s choices leads to the greatest satisfaction of all. Indeed, the more people participate in a discussion, the lower the quality standards are perceived to be.<sup>18</sup> This phenomenon, called “quality dilution,” shows that mass participation may lead to cacophony and actually inhibit participation.<sup>19</sup> Some sites such as Stackoverflow.com, Wikipedia or Quora balance openness with quality by restricting participation. *Stackoverflow* achieves this by keeping the site highly specialized and for the exclusive use of software programmers. *Wikipedia* achieves limiting participation to motivated individuals stimulated by the concept of an encyclopedia.<sup>20</sup> *Quora* is a highly regulated environment with a sophisticated degree of moderation. Regarding online video, *YouTube* do not to exercise a high degree of top down moderation of content to control their quality partly in order to avoid incurring into liability, partly because it would be costly and impracticable.<sup>21</sup> And we notice that on YouTube, quality matters less than on *Vimeo*, a less mass-frequented more moderated environment where video and film experts store or share their work. Vimeo staff make suggestions of high quality through a channel called “Vimeo Staff Picks” to which interested users may voluntarily subscribe. A

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<sup>16</sup>Benkler calls this process “peer-reviewed production of relevance and accreditation.” (THE WEALTH OF NETWORKS, p 75, see below)

<sup>17</sup> The phenomenon possesses what T.M. Scanlon calls “theoretical primacy”. See T. M. Scanlon, *Preferences and Urgency* in THE DIFFICULTY OF TOLERANCE (Cambridge University Press, 2003) p 72

<sup>18</sup> See John Horton (et al.), *Heads in the Cloud: Challenges and Opportunities in Human Computation*, December 2010, XRDS: CROSSROADS, THE ACM MAGAZINE FOR STUDENTS.

<sup>19</sup> For an interesting discussion on the topic see “How will the quality of Quora crowd-sourced content scale over time?” on Quora.com<sup>19</sup> where the question is posed of whether the high quality of Quora content is threatened by a rise in the number of participants. Available at the following link: <http://www.quora.com/Quora-Content-Quality/How-will-the-quality-of-Quora-crowd-sourced-content-scale-over-time> (last seen 04/25/2011)

<sup>20</sup> Nonetheless issues with quality management within it are not absent. Stvilia, B., Twidale, M., Smith, L. C., Gasser, L., *Information quality work organization in Wikipedia*, 59(6) JASIST (2008) pp. 983–1001, available at: <http://dx.doi.org/10.1002/asi.20813>

<sup>21</sup> For instance under §512(c) DMCA, see below.



comparison between the two sites shows that in practice quality content flourishes on Vimeo more than on YouTube.<sup>22</sup> But an ambiguity underlies the criticism of quality dilution: what is meant by quality? Are we not imposing an elitist view of quality and contradicting the very foundation of a formal model? Unless this ambiguity is clarified, the first challenge against formalist models cannot hold.

The second criticism clarifies the ambiguity and offers an understanding of quality. It is incorrect to speak of the resulting outcome of invisible hand quality assessment mechanisms as of “quality standards.” It appears from observation that both on Vimeo and on YouTube users perceive quality by reference to some *objective* value and not simply as the outcome of a process, or as the number of views or likes that the video obtained. The fact that quality is assessed through a procedure does not make the outcome of the process “quality content”: the most liked and viewed content is “popular” not necessary of great quality. *Quality* is what fits some further, substantive standard. Quality is about conscious awareness by the person forming an opinion that their opinion matters, and that it is itself a standard of quality. In that sense, expressing a quality judgment is similar to expressing a moral judgment: it is about creating a value by reference to which others will judge the judgment-maker and other content. Quality standards are not fixed and immutable. Yet in their mutability, they carry *universal importance*. Kant’s theory of aesthetics should clarify this understanding. In his book *The Difficulty of Tolerance* Thomas M. Scanlon makes the same argument in relation to ethics.<sup>23</sup> He argues that in spite of the “theoretical primacy” of subjective preferences, the criteria we actually appear to use when making a judgment are always objective, meaning they would be correct for a person to endorse even when contrary the person’s preferences. This seems right also in relation to aesthetics: quality, intuitively, is not a question of consensus. It is what one knows is “good” despite its unpopularity.

Third, even formalist approaches to quality are grounded on some underlying values, which makes them arguably as biased as substantive approaches. Choosing to promote pleasure maximization through individual preferences is a value-oriented choice itself grounded in a liberalist conception of individual autonomy. Invisible hand models are far from unbiased.

These three flaws of a formal approach make it a misleading theory to rely on, if one is seeking not only an understanding of quality, but also a means of promoting better content quality in online spaces. The problem of models that rely solely on the formalist understanding of quality is that they tend to mislead as to what quality really is. The result is an environment where the number of views and the quality of a video are seen as the same thing. What is needed is thus a theory that can make sense of quality as a substantive value.

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<sup>22</sup> See the comparison of Vimeo and YouTube in part II.1.d.

<sup>23</sup> T. M. Scanlon, *Preferences and Urgency* in *THE DIFFICULTY OF TOLERANCE* (Cambridge University Press, 2003) p 70

### I.3. Substantive approaches to video quality

Substantive approaches to quality seek to formulate a conception of quality that (1) goes beyond procedure and (2) appeals to some value other than efficiency and individual freedom. Substantive approaches to quality tend to emphasize the importance of a quality judgment and of the community of values in the context of which such a judgment is taken. I divide substantive approaches into “criterial” and “normative” theories and explore them in turn. *Criterial* theories appeal to criteria of quality inherent in the object of observation to formulate quality standards. *Normative* theories treat the act of judging as itself a form of standard without appealing to any formulated *ex ante* criterion of quality: the cognitive experience of our rational capacities applied to the act of judging (Kant) are the paradigmatic example.

#### I.3.a. Criterial substantive approaches

For the Ancient Greek philosopher Plato the notion of beauty existed in the object independently of its perception by a human being.<sup>24</sup> The beauty of an object could be assessed in two ways: by whether some predefined characteristics of beauty existed in the object, or by intuitively recognizing in the object that manifest order and unity characteristic of supreme beauty. It was thus for Plato possible to elaborate criteria of beauty independent from the human act of judging and akin to mathematics that would enable one to define perfect beauty.<sup>25</sup> In the Medieval Christian era, philosophers saw beauty as emanating from the object as a product of God’s creation. Perfect beauty was an embodiment of the divine. Finally during the Renaissance artists and humanists started to re-think beauty in the way classic Greek philosophers had done: painters and architects became conscious of form and proportion and theorized the meaning of beauty in paintings, sculptures or architectural constructions. An instance of the attempt to reduce the aesthetic world to a form or a set of mathematical formulas is the use in architecture of the *Golden Ratio*, used in the Egyptian Pyramids, the Athenian Parthenon and later used by Brunelleschi in his Florentine architectural designs. The Golden Ratio was also used by Leonardo Da Vinci in his *Study of Human Proportions According to Vitruvius*, the well-known drawing of a man represented in a circle and in a square.

In contemporary philosophical terminology, those traditions and theories adopt an “objectivist” approach to aesthetics, meaning they consider beauty to be intrinsically in the object.<sup>26</sup> Others call this approach “criterial.”<sup>27</sup> The approach suggests an effort to see nature and human creations as assessable from a purely external point of view; as, therefore, independent from the judgment of those that observe

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<sup>24</sup> Andrew Lothian, *Landscape and the philosophy of aesthetics: is landscape quality inherent in the landscape or in the eye of the beholder?* 44 LANDSCAPE AND URBAN PLANNING (1999) 177, 181

<sup>25</sup> See for instance Plato’s HIPPIAS MAJOR and his SYMPOSIUM.

<sup>26</sup> Ibid. note 90

<sup>27</sup> See the work of Ronald Dworkin on interpretation and his attack of Hart’s “criterial” theory of law.

and experience the object. A criterial approach to user-generated video quality would hypothetically take user-generated video as its object and seek to induce from its features a “supra” or “ideal” model of qualitative user-generated video with which to contrast and compare all other videos. The greater or lesser conformity with the ideal video would then be a potential “measure” of its quality. Perhaps the purest form of criterial thinking applied to video is the situation where quality is assessed through the sole use of a mechanical device: a software device or computational model such as YouTube’s “Content Editor” or “Video Enhancements” system.<sup>28</sup> In those situations the video is recognized by the software automatically as containing certain features, from the moment it is for instance uploaded, without human intervention.

As I argue in Part II in relation to two examples of criterial mechanisms used to assess video quality, overall such an approach to the aesthetics of online video is of - only limited - use for the following three reasons. First, it is indeed of use because given the wide and varied production and consumption of videos, it is practically impossible for individuals and website managers to police and impose a uniform standard of quality throughout the online space which they control. YouTube, for instance, use automatic mechanisms for checking that some IP standards are complied with.<sup>29</sup> Arguably, they could not effectively police all the content uploaded on their site.<sup>30</sup> Second, however, the same variety and diversity that makes those mechanisms necessary, also makes it difficult or impossible to define criteria of overall better quality: videos as diverse as “vlogs” (video blogs) and short documentaries may be of equally good quality and yet be totally un-comparable in a criterial sense. Quality, at least as understood in relation to online video, is too experiential to be understood as a set of components empirically found in an object that can be automatically recognized by a machine or through mathematic formulas. It could not be a function of, say, the number or quantity of colors in the video times the harmony of the sounds on a scale of 1 to 10. Therefore, criterial approaches are useful but not sufficient to an adequate understanding of the quality of online video, as a living, complex and pluralistic practice. Third and finally, criteria of aesthetics are not raw empirical facts; rather, they are necessarily value-oriented because they represent the views of those that formulated them. An analysis of online video that views quality only from the criterial standpoint risks leaving out of the picture the important role played by human judgment in quality assessment. It also risks fossilizing the notion of quality and thereby misunderstanding the fluctuating, malleable and evolving nature of online video practices.

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<sup>28</sup> <http://support.google.com/youtube/bin/static.py?hl=en&page=guide.cs&guide=1388381>

<sup>29</sup> See more about the YouTube Content ID system here: [http://www.youtube.com/t/content\\_management?gl=BE](http://www.youtube.com/t/content_management?gl=BE)

<sup>30</sup> See *Viacom International, Inc., v. YouTube, Inc.* 10-3270-cv, 2012 WL 1130851 (2d Cir. April 5, 2012)

### I.3.b. Normative substantive approaches

Understanding a concept is not necessarily reducing it to a set of definitional conditions (e.g. “quality is all that is ... and ...”). The understanding of a concept is actually in the acknowledgment of its shady boundaries and in its contextualization.<sup>31</sup> We must depart from a criterial approach and seek a different substantive understanding of quality that focuses less on definitional criteria and more on the context, meaning and importance of the act of judging quality. Kant’s paradigmatic view of a purely cognitive appreciation of beauty provides an entry point into this perspective. After discussing the implications and limitations of Kant’s rationalist perspective, I formulate a working framework of principles for interpreting the meaning of quality in user-generated video.

#### I.3.b.i. Rationalism and Kantian Aesthetics

Rationalist aesthetic philosophy is grounded in the idea that humans are rational and as such capable of judging and classifying things on the basis of their aesthetic quality. Kant’s theory of aesthetics in the *Critique of Judgment* is one of the most acclaimed by aesthetic philosophers.<sup>32</sup> Being a rationalist, Kant focused on the mind’s inner workings to explain the universal appeal of beauty. His analysis of beauty in the *Critique of Judgment* is divided into four “moments.”<sup>33</sup>

In the *first moment* Kant explains that judgments about beauty<sup>34</sup> are feelings of pleasure of a distinctive kind because they are disinterested, we do not desire an object because it is beautiful, nor is the object beautiful because we desire it.<sup>35</sup> Applying this to the example of video, Kant means that the quality of a video is a distinct consideration from whether the video might be useful to a class presentation, or whether, by uploading the video on YouTube, we aimed at fame and wealth. In the *second moment* Kant goes on to say that judgments about beauty claim to be universal, in that when one judges something (a video) as beautiful, one also makes a claim that everyone else who perceives the thing (the video) should also find it beautiful. However Kant specifies that an aesthetic judgment is not dependent on the object,<sup>36</sup> meaning that it is not criterial and cannot be proved by reference to the particular characteristics of the object (a video’s being colorful, or it having music in the background

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<sup>31</sup> See also the notion of “family resemblances” in L. Wittgenstein, *PHILOSOPHICAL INVESTIGATIONS* (1953)

<sup>32</sup> *CRITIQUE OF JUDGMENT*, trans. Werner Pluhar, Indianapolis: Hackett, 1987.

<sup>33</sup> See Ginsborg, Hannah, *Kant’s Aesthetics and Teleology*, *THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY* (Fall 2008 Edition), Edward N. Zalta (ed.), at: <http://plato.stanford.edu/archives/fall2008/entries/kant-aesthetics/>

<sup>34</sup> Judgments of taste

<sup>35</sup> Judgments of taste are distinct, for Kant, from judgments about the good (moral or ethical judgments) and judgments about the agreeable (for example about food, or which color we like best).

<sup>36</sup> He calls it the “concept.” Ginsborg explains “the claim to agreement made by the judgment that something is green rests on the ascription to the object of the property of being green, and hence its subsumption under the concept *green*.” Beauty does not depend on any physical properties of an object.

are not reasons that explain its beauty).<sup>37</sup> In the *third moment*, the most complex, Kant states that beauty is the *form* of purposiveness, the finality<sup>38</sup> of an object. What does this mean? Defining beauty as the “objective formal purposiveness” of an object serves to show that beauty is not about any properties of the object (as we saw beauty does not depend on the object’s criteria) but rather about a purely cognitive harmony between the faculties of the mind that allow the individual to perceive an object. To apply this notion to online video, it may be interpreted as meaning that the quality of a video is about the way our mind experiences pleasure at its sight: the quality of the “Kony 2012” video<sup>39</sup> does not depend on its aim to do good in Uganda, or on any of its physical characteristics for example, but rather on whether we experience a disinterested cognitive pleasure in watching it. The *fourth and last moment* in Kant’s analysis is the very important idea that an aesthetic judgment contains an “ought”: if I find “Kony 2012” beautiful, I want everyone to find it so, or rather, I believe that everyone *ought to* find it so. Kant considers the judgment exemplary, meaning that my judgment serves as an example for others who might or might not in fact think the same.

Kant’s account is interesting, appealing and is a philosophically sound foundation of aesthetics because it guides our understanding of quality providing us with tools for understanding substantively and with a degree of objectivity how some content can be more valuable to us than other content: beauty is not about the pure pleasure we experience and video quality is not about pure entertainment. Importantly, Kant presents a moral understanding of aesthetics: my aesthetic judgment contains an “ought”. When I judge something, I am making more than a subjective claim, I am expressing more than an individual preference: I am creating a standard of universal importance by making a claim that I want to see applied to others.

### **I.3.b.ii. Some Problems with a Rationalist Approach**

Why take rationality as a basis for video aesthetics as Kant does? Why not choose a Humean approach that focuses on the subjective experience of the senses coming into contact with the video? Rationality as a basis for video aesthetics raises doubts. However, after examining the claim that rationalist theories are conservative and grounded on static cognitive values, I present a refined understanding of rationalist theories. Importantly, I argue that unlike Humean approaches, rationality allows our decisions about the

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<sup>37</sup> Ginsborg interestingly notices “It should be noted that later, in the “Antinomy of Taste,” Kant does describe the universality of judgments of beauty as resting on a concept, but it is an “indeterminate concept,” and not the kind of concept which figures in cognition.”

<sup>38</sup> “If pleasure is bound up with the mere apprehension (apprehensio) of the form of an object of intuition, without reference to a concept for a definite cognition, then the representation is thereby not referred to the Object, but simply to the subject; and the pleasure can express nothing else than its harmony with the cognitive faculties which come into play in the reflective Judgement, and so far as they are in play; and hence can only express a subjective formal purposiveness of the Object.” KANT, CRITIQUE OF JUDGEMENT, Part VII of the Introduction entitled *Of the Aesthetical Representation of the Purposiveness of Nature*.

<sup>39</sup> See <http://www.youtube.com/watch?v=Y4MnpzG5Sqc>

quality of videos to be taken in the open, to be shared, and avoids the fragmentation of subjective inclinations. My argument is not that subjective inclinations are bad *per se*, it is that an approach to quality that widens the gap between people and helps proliferate communication barriers would be wrong in principle to adopt as our best understanding of quality online.

Rationalist approaches to aesthetics are often criticized for being *conservative*, because thinking rationally means thinking in accordance with our past decisions and experiences. Rationalism, it is said, is grounded on the pre-conception that aesthetics and its defining characteristics are implanted in our human brain, as a gift of some God. In other words, rationalism, to those thinkers, is a criterial theory of aesthetics. It might well be that rationalism does not lead us anywhere, that it keeps us stuck with what we already have, that it acts like a break on human progress. It might be that grounding aesthetics in rationality is simply outdated. In a blog post on the *Scientific American* online magazine, Samuel McNeerney speaks of confirmation bias in art.<sup>40</sup> He explains that often in listening to music we seek to confirm a melody we know: we therefore prefer to listen to a song we know than one we don't if both simultaneously come up on the radio, for instance. McNeerney argues that our preference is not derived from an actual judgment about the quality of the musical work but is mainly the confirmation of a previous experience we had with that work. Yet, he notices, much of the art we now praise would not have changed history if all our aesthetic judgments had been "rational". An example is Igor Stravinsky's *Rite of Spring*, a piece which purposefully broke with all the expected canons of Stravinsky's time, shocking his audiences. I agree but McNeerney argues that a rationalist approach to video quality may entail the risk of fossilizing the artistic landscape. With the latter I disagree: while rightly pointing to the fact that our artistic judgments are not always (or should not always be) consistent with judgments formulated in the past, McNeerney offers a reductive view of what rationalism is.

Rationalist approaches are not necessarily criterial, and contrary to the innovative, disruptive and contextual nature of quality in art. Rationalist approaches, in my refined understanding of them, are primarily about giving "reasons" or justifying our value judgments.<sup>41</sup> I can express a rational judgment that clashes with all that precedes it provided I can ground it in a framework of values that I share with others. In other words, rationalism as I conceive it does not claim that there are objective universal "correct answers" to whether a video is or isn't of good quality, perhaps according to past practices. Rational approaches simply recognize that there is agreement among people about a common set of values that we share and that allows us to navigate the maze of existing cultural expressions, to discuss those expressions and express our judgments about how to meaningfully characterize them. According to this understanding, it is possible to conceive of rationality as a malleable substantive standard and to bridge conservatism.

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<sup>40</sup> Samuel McNeerney, *Confirmation Bias and Art*, SCIENTIFIC AMERICAN, July 17, 2011, available at: <http://blogs.scientificamerican.com/guest-blog/2011/07/17/confirmation-bias-and-art/>

<sup>41</sup> See T.M. Scanlon's work on the theme of rationality being about "reasons," that is to say, a constant re-evaluation and re-consideration of the reasons we have to justify our actions, in *WHAT WE OWE TO EACH OTHER*, (HUP, 1998).

#### **I.4. Quality as a collective norm**

A convincing answer to the question of how to conceive of quality in the context of online video is to be found in a substantive yet dynamic conception of quality, one where the intuitive notion of quality and the criteria defining it are not settled and are constantly subject to reconsideration, re-elaboration and debate. Adopting a rationalist Kantian rather than subjective Humean understanding of quality matters in that discussion is only possible between individuals not isolated in their pockets of sensorial subjectivity. In other words: quality is a collective norm, to be debated in public, not to be kept private.

Why does all this matter? It matters because the theoretical understanding of quality one decides to adopt informs one's views of what policies and constraints should be adopted online, and those policies in turn may have an impact on the proliferation of online video and on the lives of many artists and individuals. Seeing quality as a collective norm, as we see in Part II, leads me to argue that platforms should be designed in a way that is sufficiently malleable and open to enable transparency and debates, yet sufficiently constrained to allow well curated gardens, if they are appropriate, to flourish.

## **II. Regulating online video content: from signals to standards**

My aim here is to assess a number of regulatory mechanisms that apply to video content on the internet in light of the preliminary conception of quality developed in Part I. I try to be fair and scientific in my approach to those mechanisms but will inevitably assess them in light of my personal views about what the aims of online video regulation are, such aims being roughly (1) openness of debate around quality standards, and (2) an overall higher level of content quality measured according to standards formulated in accordance with (1).

After a brief justification of the “what” “why” and “how” of regulation applied to online video, I examine regulation mechanisms organizing them into three “layers”. These layers may seem arbitrary, but they mirror the progression of thought in Part I. First I examine purely process-based mechanisms of quality measurement, i.e. signals of individual un-reflected subjective preferences, mirroring the formal approaches to quality discussed in Part I. Secondly, adding a layer of substance to the procedural mechanisms, I examine models that produce policy-oriented results based on signals of quality and other pre-existing features embedded in a video. The second layer mirrors “criterial” substantive approaches to quality. The analysis of the second layer then ends with a counter-model: the Netflix model. The third layer encompasses ways through which quality may gain more substance and become a community norm, a conscious driving force of an online community, mirroring normative substantive

approaches in Part I. This layer also encompasses a critical assessment and comparison of two user-generated video platforms: YouTube and Vimeo.

## **II.1. “What” “Why” and “How” of Regulation**

### **II.1.a. What is regulation**

In his essay “The Laws of Cyberspace,” Laurence Lessig defines it as that which “constrains behavior.”<sup>42</sup> *Behavior* - the object of regulation according to Lessig – must be construed as encompassing anything that even indirectly affects people: regulating road signs is regulating *behavior* because it is about indirectly constraining individuals’ driving behavior. I here adopt Lessig’s broad view.

### **II.1.b. Why regulation**

Regulation does not need to be justified to exist. A space is regulated by its very architectural boundaries. Spaces such as the internet that seem not to be regulated are in fact regulated. Lawrence Lessig shows indeed that the internet is not a bubble and is in fact regulated in similar ways to the offline environment: it can be regulated both from the inside (through design constraints or internal norms of behavior) and from the outside (through government laws and market forces).<sup>43</sup> The question of justification arises therefore mainly if one seeks to justify more than minimal regulation, i.e. regulation that is not intrinsic to the space to be regulated. To put it simply, regulation must be justified when a regulator intervenes and orients human behavior with the belief that some environments are better than others.

Here, the question is why it would be justified to incentivize “better” content online, rather than just let online users produce “more” content. The answer is in the important intuition that not all limitations, constraints and obstacles to freedom are bad. In *The Future of Ideas*<sup>44</sup> Lessig mentions the “classical form” in music as a constraint that helped Mozart and Beethoven emerge. The political/legal/normative/regulatory climate in which an artist, director or producer is immersed plays a crucial role in whether his creativity is enabled or restrained. This is not only true of music and art, it is also true in philosophy, academia and other professional pursuits: no great artist, painter, thinker, and no great movie or video work can be “great” in a vacuum.

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<sup>42</sup> (1998) can be found online at: [http://www.lessig.org/content/articles/works/laws\\_cyberspace.pdf](http://www.lessig.org/content/articles/works/laws_cyberspace.pdf) and see also his account of regulation in CODE: AND OTHER LAWS OF CYBERSPACE, VERSION 2.0, (Basic Books, 2006). Also available at: <http://codev2.cc/download+remix/Lessig-Codev2.pdf>, especially Chapter 7 entitled *What Things Regulate*.

<sup>43</sup> See Lessig, *Ibid.* supra

<sup>44</sup> p. 104



### **II.1.c. How to regulate**

Regulation can be a good thing, but to determine how good it is one must ask someone. Who? I argue that one must ask both the *regulators* and the *regulated*, though they can be the same person. In other words, the goodness of a system must be assessed by those that participate in its creation, implementation and life. Although some decisions about an online platform are taken by software developers or other policy-makers in closed rooms, “good” regulation is in large part about transparency and generativity.<sup>45</sup> Regulation must allow the widest margin of malleability and the largest debate among and between the people regulated and the regulators.

Given regulators sometimes take unilateral decisions, for instance when building a site or a device, it is important to ask when quality is an appropriate goal of regulation, absent a possibility of debate. My view is that, as a general principle, quality should always be a substantive policy consideration to be balanced, if need be, with free speech, free access to content and privacy. In practice, although a fair balance between an open internet and the promotion of quality online is difficult to achieve, it can be attained by leveraging wisely a toolbox of constraints that enables informed debate and communication between the self-regulating communities of users. Open standards of quality and community self-regulation are thus key.

### **II.1.d. Models of quality regulation, YouTube and Vimeo.**

Before analyzing separately some of the mechanisms used to regulate quality on internet platforms, I here offer a roadmap view of how quality should be promoted by regulators, a lens through which to assess the map of possibilities available to them. These possibilities are all points on a spectrum that goes from ( $\alpha$ ) an environment where total liberty is supported by procedural mechanisms that ensure the free engagement and participation of internet users to ( $\omega$ ) a community that *imposes* content of quality chosen by the community of users (or users that represent them) upon the users themselves. The regulation of quality in an open platform may have two different (overlapping) goals: on the one hand it may aim at enhancing the user’s experience and allowing users a degree of autonomy in the content they are offered to watch; on the other hand it might be used to provide all users and citizens with the possibility of accessing the same quality content. A policy model that adopts the conception of quality developed in this paper leads to an inclusive environment where user-autonomy prospers through the sharing and discussion of quality content. A degree of constraint on user-preferences can be both healthy and autonomy enhancing. After an overview of YouTube.com and Vimeo.com, I assess regulation on

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<sup>45</sup> JONATHAN ZITTRAIN, *THE FUTURE OF THE INTERNET (AND HOW TO STOP IT)* (2008), p 67, generativity is “a system’s capacity to produce unanticipated change through unfiltered contributions for broad and varied audiences.”

those sites against two models - on the ( $\alpha$   $\omega$ ) spectrum of regulatory possibilities – in light of the conception of quality developed in Part I.

## YouTube

YouTube is the type of platform where user-freedom is sovereign and quality a low priority concern. What type of site is YouTube? At present the major online video sharing platform, the site was officially launched in 2006.

“60 hours of video are uploaded every minute, or one hour of video is uploaded to YouTube every second, Over 4 billion videos are viewed a day (...) More video is uploaded to YouTube in one month than the 3 major US networks created in 60 years, 70% of YouTube traffic comes from outside the US, YouTube is localized in 39 countries and across 54 languages.”<sup>46</sup>

YouTube serves multiple uses. It primarily enables self-promotion, connecting people yet leading to greater fragmentation of the global cultural environment: “Broadcast Yourself” is the site’s two-word catchphrase, indicating the (possibly) individualistic aims the site promotes. How to define YouTube? For Anandam Kavoori in *Reading YouTube, The Critical Viewer’s Guide*<sup>47</sup> there is at present “no reliable ‘sample’ of videos on YouTube; no easily identifiable way to determine its dominant thematics; no way to evaluate ‘quality’; no benchmark for establishment of impact (beyond the questionable number of times a video has been watched<sup>48</sup>), no seminal literature.” It is alternatively seen as “a high-volume site,” “a broadcast platform,” “a media archive,” “a social network,” or many of these altogether. Yet, increasingly since its acquisition by Google, it is seen as a driver of online self-promotion, business and innovation. As a tool of self-promotion in which videos are uploaded with the aim that they “go viral” the site is not centered on its sharing ethics and can hardly be defined a “community.”<sup>49</sup> Important driving forces on the site are the money gained through advertising and the number of views a video gets.

The content one finds on YouTube is a good indicator of the level of content quality that qualifies the site. In a study, Burgess and Green look at YouTube’s content, gathering origin, identity of the person who uploaded, genre and theme of 4,320 popular videos in the space of three months in 2007 with the aim of “understand[ing] how content might be perceived and function within YouTube’s ecology” and finding out “how popularity works” on the site.<sup>50</sup> While recognizing the limitations of a sharp division between “user created” and “traditional media” content on a space like YouTube, Burgess

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<sup>46</sup> For an updated idea of scale visit YouTube’s updated “Statistics and Facts” page at [http://www.youtube.com/t/press\\_statistics](http://www.youtube.com/t/press_statistics) (last visited 03/26/2012 at 00.01)

<sup>47</sup> (Peter Lang Publishing, 2011), p. 1

<sup>48</sup> - or ‘liked’- I add.

<sup>49</sup> For a comparison, see the “Scratch” community’s sharing ethics.

<sup>50</sup> Ibid, p. 39

and Green make interesting findings about popular YouTube content. First, they find that just over half the videos are user-generated. Those include 40% of “vlogs” (video blogs where the “vlogger” dialogues with his viewers), 15% of music video, 10% of informational content, 8% of scripted material and only a negligible proportion were “slice of life” videos. On the other hand, 42% of the videos come from the mainstream media (TV, DVDs, etc.) and most of those appear to have been uploaded by users from outside mainstream media corporations. Second, they find that the popularity of mainstream media videos differs from the popularity of user-created videos: mainstream media content generally prevails as “Most Viewed” and “Most Favorited” but user-created videos generate more comments and responses. In other words, user-generated videos spark debate and generate a degree of communication between users.

Despite comments and community self-regulation, YouTube remains a platform that does not promote the best quality content to its users. “Quality” on the site is less significant than “popularity”: quality – paradoxically - becomes a matter of quantity (of views, likes, shares).

## **Vimeo**

Unlike YouTube, Vimeo is not a site where content creators are driven by the thirst of popularity or commercial aims. Vimeo is, first of all, a community of video lovers who share a common interest, a passion for creativity and moving images. In fact Vimeo’s community guidelines specify that uploaded videos “must not be intended for commercial use” and the terms of use explicitly mention the shareability of the content by other users on other sites so long as this is for “noncommercial” purposes. On Vimeo community norms are strong, there is a strong ethics of quality promotion. Vimeo users have a full profile that describes them and their professional status. There is a forum where they can share information and where conversations take place between expert film or video-makers and new users or amateurs. This leads to a vibrant environment dominated by the thirst of discovery and learning, rather than fame. One portion of the site is explicitly called “Video School” and contains user-created videos that explain “How to” make videos, act, or videos that teach video-related skills. As discussed below, moderation on the site is significant. There are both community based forms of moderation through organized groups of interest, and top-down moderation operated by site managers who have a variety of functions among which to suggest good quality videos to users and deal with abuses and spam. The site is able to promote to users a range of videos of surprisingly good quality, something YouTube does not do. This is because better quality promotion results from an enhancement of community norms and of moderation, to the detriment of unconstrained user-freedom.

## Two other models

The *first* (the *liberty model*) is a model that leaves users the greatest amount of freedom as to what they want to watch. This model, at first sight, is guided by no conception of quality, the aim of regulation simply being to please users and expose them as far as possible to the content they want. This model operates by matching user preferences to video content. Yet the model matches the conception of quality developed in this paper only to the extent it takes the dimension of sharing, commenting and discussing content seriously. Thus, while content selected by the community or through interaction with others in a social network is fully compatible with a normative view of quality, the selection of content by isolated users, or by site-managers alone, or by opaque algorithms risk leading to excessive fragmentation and must be leveraged with care. The liberty model, to satisfy a normative view of quality, must combine user-preferences and communal norms. Such a model may be implemented through a degree of soft moderation such as with Vimeo “staff picks,”<sup>51</sup> or through the recognition, by the community, of super-users or curators whose taste others want to follow. YouTube’s model is a liberty model. The site however lacks a normative understanding of quality and therefore is in tension with the view of quality developed here. Ethan Zuckerman develops an interesting idea for implementing the liberty model in a way that matches quality in a normative sense, the idea of “nutritional labels”<sup>52</sup> which he applies to news. It consists of allowing each one of us to tailor the amount of news of a certain type that we consider we should consume daily, our daily dose of “vitamins.”<sup>53</sup> In the context of video, labels would for example set a percentage of quality videos per day (e.g. Vimeo “staff picks,” online film competitions, great speeches, etc.). The liberty model leaves users the autonomy to watch what they want but also gives them the possibility to access content of quality selected by other people or groups of people they trust.

On the opposite side of the spectrum of possibilities, a *second* model (the *gardened model*) is controversial, yet interesting to explore. It brings Zuckerman’s “nutrition labels” one step further: in addition to providing users with videos selected freely and the ability to discuss and accredit quality standards in online communities, the gardened model suggests that “nutrition labels” be, in some circumstances, imposed on users. For instance, one could imagine a requirement that every tenth video watched be something of cultural and societal significance: a political speech, the video showing a current controversy, or an important short film which resonates with public importance. The degree to which such a “standard” should be imposed on users by the community of users or professional thirds

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<sup>51</sup> See <https://vimeo.com/channels/staffpicks>

<sup>52</sup> See the blog post *What would a nutritional label for news look like?* (October 2011) CENTER FOR CIVIC MEDIA AT MIT at: <http://civic.mit.edu/blog/mstem/what-would-a-nutritional-label-for-the-news-look-like>

<sup>53</sup> See Andrew Phelps, *Ethan Zuckerman wants you to eat your (news) vegetables — or at least have better information* (November 8, 2011) NIEMAN JOURNALISM LAB, at: <http://www.niemanlab.org/2011/11/ethan-zuckerman-wants-you-to-eat-your-news-vegetables-or-at-least-have-better-information/>

is flexible. The more it is imposed by the community, the more the imposition will fade into the first (liberty) model.

The two models help us map and visualize what follows. As is clear by now, Vimeo and YouTube are on different points of the spectrum of regulatory possibilities, and my normative view of quality leans toward community-based models more similar to Vimeo than YouTube. I here discuss a series of regulatory mechanisms in turn.

## **II.2. Process-based mechanisms**

Process-based mechanisms are means enabling the web-designer to simply and quickly identify the preferences of individual users. These formal mechanisms can consist of a mere “click” or of a slightly more demanding task that signals a preference at a given point in time. The various signals can be aggregated and used in a variety of ways but cannot serve to constitute substantive *standards* of quality.

### **II.2.a. Clicking**

#### **II.2.a.i. Likes**

The most basic form of Process-Based Mechanisms are *likes*. Likes are an expression of appreciation, generally in a context. The extent to which the context is important is unclear: it is very difficult to know why people clicked on the “like” button. All the “like” button allows us to do is notice that a number of people at some point in time appreciated the content of a video.

One can generally “like” a video directly on the video hosting platform (YouTube and Vimeo both allow this functionality to any person, even people not logged in to the site with an account) or one can express appreciation through a social network: on Facebook one can “like” a video, on Google + one can “+1” it, on Twitter one can “retweet” it which is also a way of sharing it. A question is how YouTube or Vimeo count their “likes”: do the Facebook “likes” of a YouTube video count as “likes” on YouTube? The answer is *no*, “likes” are site-specific. If a Facebook API is embedded next to the video on a blog, for instance, then the act of clicking that “like” button will count toward the overall number of Facebook “likes” for the video and will also be visible to the blog’s visitors.

Being by their very construction a-contextual, the use of like buttons is limited: likes are a number, they can serve statistical modelling but cannot be used to understand what was going on in a person’s mind when they liked that video. To this extent, their role in inferring quality is limited.

### II.2.a.ii. Views

*Views*, the second arguably most important kind of process-based mechanism related to the appreciation of videos, is also a mere signal of quality, and ambiguous by construction. Views are more difficult to count than “likes” because they are about a process that lasts in time: “watching” is not only clicking on the “play” button. Can one say that a person truly appreciated the video if they started watching it and then stopped? Views, in this sense, may be a measure of the quantity of people that “accessed” the video, a measure of how much the video has been circulating, not a measure of how much it was actually appreciated. What do views measure? It depends on their design, generally the excitement people experience when watching the video’s beginning, the willingness people have to share its jokes, not its aesthetic beauty or cultural value. Nonetheless, views are seen as the paramount measure of success for video-makers.

How are views counted on YouTube? The site is elusive about the question: “A view is counted whenever someone watches a video on YouTube. We do not get more specific than this to avoid attempts at artificially inflating view counts.”<sup>54</sup> In fact, however, YouTube developed a very sophisticated system that counts views through algorithms and security systems in order to avoid abuse of the system by continuously refreshing the page and starting the video will not boost a video’s views.<sup>55</sup> There is thus a system of review in place to ensure fair process and avoid fraudulent use.<sup>56</sup>

Vimeo has a very different attitude to views than YouTube: it does not encourage video-makers to get a high number of views but tends to rank higher those videos that have been appreciated in other ways through “likes,” “favorites,” staff picks and comments. In fact, Vimeo calls its views “plays”: “A *play* is registered anytime someone pushes the play button on Vimeo or while that video is embedded.”<sup>57</sup> By contrast, a “*load* is counted each time the video player loads on any page, either on Vimeo.com or embedded on another website.”<sup>58</sup>

### II.2.a.iii. Sharing

The act of *sharing* is more subtle than likes and views because it is not limited to a number affixed on a video but is contextual. The very act of sharing in some situations tells us about the act’s context. In addition, sharing can be and is often accompanied by a comment of the sharer. It can also be a bare share, such as a Twitter “retweet”. To what extent are shares a measure of a video’s quality?

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<sup>54</sup> <http://www.youtube.com/t/faq>

<sup>55</sup> *How Does YouTube Count Views* (18 April 2011) by BLUEFOUNTAINMEDIA at: <http://www.bluefountainmedia.com/blog/how-does-youtube-count-views/>

<sup>56</sup> <http://www.atlantaanalytics.com/practicing-web-analytics/how-does-youtube-video-view-count-work/>

<sup>57</sup> <https://vimeo.com/help/faq/stats>

<sup>58</sup> *Ibid.*

Sharing is a product of the networked structure of the internet: it takes its full meaning in the context of a social network or other community where individuals interact. Because understanding the act of sharing would require much time, I here limit my analysis to a few important points. First, sharing is also a form of appreciation on the same level as likes and +1s. Twitter “retweets,” for instance, are both a way of sharing and a way of demonstrating appreciation for a video and/or the comments of the person who posted it. Second, sharing adds a further dimension to the signaling of mere appreciation; it is a communicative act that expresses a relation between people. A “like” is a communicative act too: this is obvious in the situation where I like your post on my wall and thereby express appreciation for your sharing choice. However the act of sharing is more than an act of appreciation, it is also a message directed at a specific audience: you post on my wall, you send John an email with a link. Click “like” on the post or replying “Thanks” to the email requires a far lesser degree of appreciation.

The act of sharing (or re-sharing) a video thus implicates two dimensions in addition to the dimension of appreciating the video: (a) prompting others to share the emotions we experienced when viewing the video and (b) being “seen” to be appreciating the video in front of one’s network, community or the world at large.<sup>59</sup> Whether sharing is an act whose measure can legitimately contribute to a definition of standards of quality is an important question. It seems that the networked nature of the web could place particular importance upon those acts of “empathy,” and yet the extent to which they are a measure of quality is doubtful.

While sharing is a measure of quality, views and likes appear only remotely related to quality: far from active choices to express and communicate one’s appreciation, viewing or liking simply indicate un-reflected curiosity or inclination.

## **II.2.b. Tasks**

Process-based mechanisms may require more effort of evaluation than mere clicking. I categorize them as process-based because they are not acts that aim at setting a quality standard in the substantive sense I intend.

### **II.2.b.i. Rating on a scale**

The more evolved equivalent of a “like” is the act of *rating* on a scale of numbers, letters or signs. One way sites often design scales is through the use of stars (generally 5 stars and the rating goes from 0 to

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<sup>59</sup> To understand the far-reaching potential of the act of sharing see those two videos: *Information Transmission in a Social Network: Dissecting the Spread of a Quora Post* (2011) YOUTUBE <http://www.youtube.com/watch?v=cZ4Ntg4jQHW> and “Information Diffusion on Twitter Network: a visualization” <http://www.youtube.com/watch?v=O5DtR5kqSuQ&feature=related>

5 with the possibility to assign half stars): examples of sites that use stars are eBay,<sup>60</sup> along with Netflix<sup>61</sup> and rottentomatoes.com<sup>62</sup> among others. *Rottentomatoes.com* offers an interesting model (the “Tomatometer”) that puts expert review ratings next to consumer ratings for each movie they suggest or assess. The way their expert reviews are constructed is detailed on their site which specifies that “[m]ovie reviews in the Tomatometer come from publications or individual critics that have been selected by the Rotten Tomatoes staff. The criteria for inclusion for both publications and critics are separated across three divisions; print, broadcast, and online, each with its own criteria for Tomatometer inclusion.”<sup>63</sup>

But scales are not the only way to rate preferences. On the site Photo.net, logged in users can rate images on a scale of 1 to 7 (from “very bad” to “excellent”).<sup>64</sup> On Fox Nation, a site of news videos, users are asked to rate the videos by selecting one or more of seven adjectives that should reflect people’s most common reactions to news videos: offensive, funny, cool, obnoxious, scary, inspiring, crazy.<sup>65</sup> Those types of ratings are all aimed at capturing individual judgments about quality. However their uses are different. The RottenTomatoes and the Photo.net systems aim at assigning an overall “grade” on the product, movie or photo in question: the sites then aggregate and use individual ratings as signals of appreciation for the given item. Netflix or eBay instead use stars to collect data about customers and then process those data to suggest products or for other promotional purposes. The Fox Nation “appraisal” mechanism is peculiar: the aim of the site’s complex rating system is, it seems, neither to properly “classify” content nor to monetize through suggestions and targeted ads, rather it prompts political discussions and reactions. It is also, perhaps, a source of branding, the site’s distinct flavor.

### **II.2.b.ii. Tags**

*Tags* are another important yet less obvious way through which quality is constructed and appreciated. The quality of the tags themselves is relevant to the type of people that will find a video, view it, share it, etc. Tags are related to searches: they enable people to find videos more easily. They are also used for the purpose of predicting or ranking content, as we see below in the case of Netflix. I discuss them briefly here because on sites such as YouTube or Vimeo users that upload a video are asked to tag it and this provides the sites with metadata that allow the site to rank and prioritize content. As Damian Borth et al. argue, “manually generated meta information and tags... are subjective labels that might be

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<sup>60</sup> <http://www.ebay.com>

<sup>61</sup> <https://signup.netflix.com/>

<sup>62</sup> <http://www.rottentomatoes.com/>

<sup>63</sup> [http://www.rottentomatoes.com/help\\_desk/critics.php](http://www.rottentomatoes.com/help_desk/critics.php)

<sup>64</sup> <http://photo.net/>

<sup>65</sup> <http://nation.foxnews.com/>



misleading in their semantics.”<sup>66</sup> Do bad tags lead to bad quality production? Do tags in general lead to poor quality?

Solutions to the problem of mis-tagging range from mechanisms that crowdsource tagging to the community by providing open tagging data and pen access to tagging<sup>67</sup> to technical solutions such as the “content-based video retrieval (CBVR)” mechanism suggested by Borth et al. that allow a site to extract “keyframes” that, analyzed through image processing algorithms, reveal which tags should be affixed to the video.<sup>68</sup> The first mechanism is a crowdsourced, process-based mechanism, that harnesses the web’s openness. The second is instead grounded on the idea that computers may know better than humans, and seeks to avoid the drawbacks of crowdsourcing. The extent to which the crowd’s ability to express its preferences must be limited is decided on a case-by-case or site-by-site basis by web-designers. The use of open tagging systems is a transparent and democratic means of ensuring a qualitative and ongoing review of video tags. I consider transparent and open standards to be a good form of regulation regardless of the power given to the crowd to change them, because even mere access to the standards stimulates discussion round them. The idea of computer-processed keyframes, on the other hand, leads the way to the first layer of substantive standards: “criterial” standards of quality.

### II.3. Code that regulates

As seen in Part I, when individual users interact by clicking their appreciation or revealing ready-made opinions about a video, their acts constitute a *signal* but not a *standard* of the video’s quality. In addition, the a-contextual consideration of “likes” “ratings” or “tags” makes it difficult to understand and assess the meaning of those acts scientifically. Neither the crowd nor computer algorithms act alone: the invisible hand of the web designer underlies all regulating mechanisms. The focus must thus be on how each mechanism is used by the web-designer and what each use entails. I offer three examples of the way computer science and AI can be used together with user choices and user preferences in prioritizing content and “constructing” quality. The first two examples closely reflect the analysis of “criterial” approaches to quality developed in Part I, the last example is a standalone success model that somewhat departs from the networked structure of the internet and sits ambiguously between the process-based and standard-based mechanisms of quality assessment, representing a paradigm example of the direction the internet is taking, which I attack in this paper.

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<sup>66</sup> Borth, et al., *Keyframe Extraction for Video Tagging & Summarization*, PROC. INFORMATIKTAGE (2008), available online at: <http://iupr1.cs.uni-kl.de/~shared/publications/2008-ulges-informatiktage-keyframe-extraction-vts.pdf>

<sup>67</sup> See Gary Geisler and Sam Burns, *Tagging video: conventions and strategies of the YouTube community* (2007) JCDL '07 Proceedings of the 7th ACM/IEEE-CS joint conference on Digital libraries, available at: [http://delivery.acm.org.ezp-prod1.hul.harvard.edu/10.1145/1260000/1255279/p480-geisler.pdf?ip=128.103.149.52&acc=ACTIVE%20SERVICE&CFID=99593293&CFTOKEN=20187111&\\_acm\\_=1335553467\\_dccdca4fb74b442c0f0f9dc9f297f90f](http://delivery.acm.org.ezp-prod1.hul.harvard.edu/10.1145/1260000/1255279/p480-geisler.pdf?ip=128.103.149.52&acc=ACTIVE%20SERVICE&CFID=99593293&CFTOKEN=20187111&_acm_=1335553467_dccdca4fb74b442c0f0f9dc9f297f90f)

<sup>68</sup> *Ibid.* Borth et al. above

### II.3.a. Criteria and computer vision

My first example is based on the nascent study of the aesthetic quality of user-generated video in computer vision, a branch of computer science. Given the complexity and relentless pace of innovation in the field, and given I am not a computer scientist myself, I do not purport to offer a comprehensive, or even a birds-eye view of the state-of-the-art in computer vision studies of video aesthetics. What I am interested in discussing here is one article that exemplifies well, in my view, that which computer science studies should *not* be grounded on. My approach is a normative, legal, and regulatory one. The article I wish to discuss, entitled “Towards Computational Models of Visual Aesthetic Appeal of Consumer Videos,”<sup>69</sup> was chosen for its strict relevancy to my discussion. The approach adopted in it is practically compelling but theoretically unsound for the reasons I discuss below after a summary of the paper’s general argument.

The aim of the paper was to ground future research in computer vision on aesthetic assessments of user-generated videos. The paper is a response to three needs. One arises from the unsatisfactory search results one obtains for video searches, the idea is that providing a way to “spot” aesthetically qualitative videos might be more effective than the use of text search boxes and metadata such as comments, tags, user-ratings, etc. The second need addressed is that most companies are reluctant to see their trademark attached to poor quality content when advertising user-generated content on YouTube. A comprehensive approach to aesthetic quality could provide advertisers with useful ways of detecting whether they should or should not advertise on or next to a particular video. The final need addressed is that of users, who could be provided with the enhanced ability to search and surf the web through a system better suited to their aesthetic instincts. The paper thus seeks to address these needs by elaborating a computational model that could help computers detect whether a video is of high or low aesthetic quality. Their model is based on a controlled user study in which 33 participants (students) are asked to rate 15 seconds sections of 160 YouTube user content, and rate it on a 5-point Likert scale, with separate ratings for content and aesthetic appeal so as to maximize the independent assessment of the videos’ aesthetics. The findings of this empirical survey constitute what they call their “ground truth.” The authors then suggest 7 features that will help characterize aesthetic appeal and build a computational model. Finally, the authors compare the results of their model as applied to a number of videos to the “ground truth” they revealed in the empirical part of their research. The authors end by claiming 73% of classification accuracy.

My criticism of this study is two-fold. First, the distinction between “content” and “aesthetics” appears artificial. Indeed to consider the aesthetics of a video only from its surface appearance and thus

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<sup>69</sup> Anush Moorthy et al., European Conference and Computer Vision (ECCV), September 2010, available at: [https://webspaces.utexas.edu/akm798/research/akm\\_eccv\\_sep10.pdf](https://webspaces.utexas.edu/akm798/research/akm_eccv_sep10.pdf) (visited 03/14/2012).

possibly severable from its meaning, or what the authors of the paper ambiguously call “content,” is a bold step only loosely justified in the article. Moreover, extracting 15-second segments from the middle part of each video in order to “reduce potential biases induced by varying video lengths,”<sup>70</sup> is perhaps the best way to sever appearance from substance, but it is also the best way to make any form of assessment meaningless. Indeed, while such an approach might be fruitful from the purely speculative point of view of a computer scientist who seeks to find ways to measure the appeal of surface appearance, such an a-contextualized approach does not fulfill the aims that the authors specify at the beginning of their article. In fact, arguably neither search engines, nor advertisers, nor users are interested in targeting the pure aesthetic appeal of YouTube videos. Instead, for computer science studies to be richer and more fruitful from an ethical point of view, they should focus on function and meaning: mere aesthetic quality counts very little, as Lange points out.<sup>71</sup> Of course, social complexity is difficult to capture mathematically. I do not deny that, my response, if any, is simply that as it is developed in this particular article, a computational model of aesthetic appeal appears to make little sense.

Second, there is an ambiguous tension in this study between the aim, ideally seeking to explain aesthetics in an exhaustive and universalist way, and the means, relying on the subjective ratings of 33 individuals or on the authors’ own intuitions about aesthetics when suggesting the seven frame-level features that form the basis for their computational model: action frame rate, motion features, sharpness/focus of the region of interest, colorfulness, luminance, color harmony, blockiness quality, rule of third.<sup>72</sup> There is an implied assumption that the criteria formulated in the computational model are settled in stone and can form the basis of a mathematical formula purporting to offer the ultimate truth about aesthetics. Unfortunately “quality” is not as simple an idea. While, as computer scientists, the authors are plausibly well aware that their model is a working model, which can be improved by gathering more data, doing more experiments, and “trying” the model more times on real life videos and individuals; my conviction is that 100 years of data gathering will not provide the computational model with a strong enough bite on online video to make it independently useful: the aesthetic judgment of a computer will always need to be supplemented by or provided together with a human judgment about context.

### **II.3.b. YouTube’s efforts to facilitate aesthetical improvement of videos by users**

My second example draws on the above conclusions to assess the usefulness of features that YouTube uses to enable ameliorations of the aesthetic quality of user-generated video content.

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<sup>70</sup> Moorthy et al., 2010, p. 4.

<sup>71</sup> Patricia Lange, *Videos of Affinity on YouTube* in THE YOUTUBE READER (Pelle Snickars and Patrick Vonderau eds., National Library of Sweden, 2009), available at:

<http://www.youtubereader.com/images/youtubereader.pdf>

<sup>72</sup> See Moorthy et al., 2010, p. 7 and ss.

In September 2011, YouTube introduced a video editing tool on its site.<sup>73</sup> This allowed users to modify their videos after uploading them on the site in several ways: one was a simple “Edit Video” toolbox that allowed users to stabilize the shaky vibrations of a video, rotate it, and boost its colors and contrasts. This could be done manually or could be done through a one click “I’m feeling lucky” device which would automatically adjust the video’s features. In addition, YouTube collaborated with Picnik,<sup>74</sup> to add other more advanced digital effects to its toolbox. The result is thus a toolbox for users to improve their videos. The toolbox is mainly targeted at user-created videos that do not reproduce mainstream media content.<sup>75</sup> The application of the stabilization tool can be seen by comparing this shaky video of a panda<sup>76</sup> with its stabilized equivalent:<sup>77</sup> the second video does not shake. On March 21<sup>st</sup> 2012 YouTube improved “Video Editor”<sup>78</sup> by enabling automatic improvements. This creates a second “better” copy of the video, and users may choose whether to accept the improved version.<sup>79</sup> YouTube plans more automated improvements in the future. Vimeo recently introduced a similar, but arguably better designed, video “Enhancer” toolbox on its site.<sup>80</sup>

To assess these tools the issue is whether the degree of automatism involved imposes an external standard of video quality that we are not ready to accept. Here the automatic “I’m Feeling Lucky” device seems to be acceptable because it builds upon criterial computational studies of video quality (such as the one explored above) but then allows users to choose whether or not they are willing to apply those improvements to their video. This, therefore, allows one to apply a criterial approach to video aesthetics to the subjective judgment of the video creator. This use of criteria of quality appears justified: computer vision studies aiming at improving tools such as the “Video Editor” are justified from the normative point of view.

Most important however is always to distinguish between the aims and uses of the studies: enabling the creation of tools that enhance the options available to individual users is a legitimate and praiseworthy aim for research; taking the findings as establishing the ultimate truth about video aesthetics is not. Separating the use of the studies from the more complex purpose of video aesthetics is essential: “Video Editor” should not, in the future, become the reference on what constitutes aesthetic quality in video. In the domain of aesthetics, the fact that a private tool is not authoritative as regards

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<sup>73</sup> See John Gregg’s related blog post entitled *Edit your videos with YouTube* available at: <http://youtube-global.blogspot.com/2011/09/edit-your-videos-with-youtube.html> (last visited 04/01/2012 at 1 pm)

<sup>74</sup> <http://www.picnik.com/> (which, by the way, is now selling itself to Google +)

<sup>75</sup> Indeed, a notice in the explanatory page specifies that: “[i]n order to be eligible for saving changes ... through YouTube Video Enhancements, the video must: [n]ot have received over 1,000 views and [n]ot have a Content ID Match.” <http://support.google.com/youtube/bin/static.py?hl=en-GB&guide=1388381&page=guide.cs>

<sup>76</sup> <http://www.youtube.com/watch?v=mELK9xE17Bc>

<sup>77</sup> <http://www.youtube.com/watch?v=ifpekKhlGmM>

<sup>78</sup> <http://www.youtube.com/editor?gl>

<sup>79</sup> See the related blog post by John Gregg, *Improving video awesomeness with one click* available at: <http://youtube-global.blogspot.com/2012/03/improving-video-awesomeness-with-one.html> (last visited 04/01/2012 at 2 pm)

<sup>80</sup> See <http://vimeo.com/enhancer>

aesthetic quality is not obvious: online video platforms are generally run by software developers who may neglect aesthetic standards and rely on readymade proxies.<sup>81</sup>

Quality, as intended for the purpose of this paper, is not a fossilized notion and must be the object of a constant debate between videomakers, viewers and YouTube developers: it cannot be decided by a device that only a handful of people know how to program. As culture becomes more and more automated, it is important that quality judgments remain the result of human discussions and that devices be conceived as “tools” rather than as “norms” of conduct. This example shows the importance of building “generative”<sup>82</sup> devices to use Jonathan Zittrain’s term: criteria of quality cannot and should not be set in stone and the only mechanical devices that are legitimate are those that are organically and easily modifiable by the community of users, as they together debate the notion of quality.<sup>83</sup> YouTube aims at enhancing the autonomy and experience of individual consumers. But is an environment where the consumer is sovereign all we want?

### **II.3.c. Predicting preferences: collaborative filtering and the Netflix Prize**

The discussion about regulatory mechanisms developed so far shows how an algorithm, device or piece of software architecture can balance the interests of the community of users and user-generated video creators with those of the video platform owners and designers by allowing a degree of freedom for users combined with a non-intrusive non-burdensome degree of supervision by the platform hosts. The example I develop now builds on the idea of individual autonomy to bring it to its highest watermark: the simulation of the virtual effects of a community where there is no community. Collaborative filtering uses the architecture of the internet not to empower the community but rather to provide individuals with the best entertainment experience possible.

Collaborative filtering is a relatively recent technique that allows the automatic prediction of an individual’s future tastes about a set of products based on information about their past preferences as well as the preferences of many others users. The underlying idea is that if John has the same movie tastes as Terry, then John is likely to enjoy the movies Terry watches more than he is likely to enjoy other movies. Sites in the retail sector such as Amazon and eBay use this kind of algorithm. The most salient use of collaborative filtering in relation to video is Netflix’ algorithm which seeks to predict the movies a user will like on the basis of (a) that user’s ratings, (b) the ratings of users who rated the same movies. Collaborative filtering may also work through connections within a social network: products or movies are recommended based on one’s social network, i.e. what one’s friends liked or rated positively. This is the system used by YouTube, at least since March 1<sup>st</sup> 2012 date when Google changed

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<sup>81</sup> Cf. the study explored above.

<sup>82</sup> See “generativity” above.

<sup>83</sup> See Ronald Dworkin on “conceptual complementary interpretation,” JUSTICE FOR HEDGEHOGS (HUP 2011)

its Privacy Policies into a single policy that operates across all Google-owned sites.<sup>84</sup> Since then, therefore, Google + feeds into the YouTube recommendation system: if a friend in your close circles “+1”s or “likes” a video, you are likely to see it on your YouTube front page.

These systems rely on a number of premises in relation to video. The first is good “tags”: the more accurate they are, the easier it is to create parallels between videos. Netflix for instance tends to recommend all the movies featuring a given actor or actress if one has shown an inclination toward him or her, or all the movies of a given genre or on a given topic, if one’s preferences match those.<sup>85</sup> Thus tags play a crucial role in the accuracy of rating predictions. Secondly, the system relies on good affinity and proximity ties, i.e. a good evaluation of what similar videos are about (genre, actors, director, characters, tags...) as well as an evaluation of what it means for two people to have similar tastes. The better the algorithms achieve paring up people, the better they predict people’s preferences. Finally, adaptation in time: it is important for an algorithm to adapt to a user’s changes in preferences. This is the reason for a continuous request of ratings on sites like Amazon: putting in the basket without buying is already precious information for the business. The same happens with Netflix: as soon as a DVD is returned they ask for a rating by email and this allows them to better tailor their algorithm to an individual’s changing tastes.<sup>86</sup>

The Netflix Prize was set by Netflix on October 2, 2006 and consisted of a series of prizes including a grand prize of one billion dollars to whoever would be able to improve Netflix’s own algorithm, called “Cinematch” by a certain percentage.<sup>87</sup> In order to allow teams of researchers to beat the records Netflix made available a large dataset where individual users were anonymized and their profiles replaced by numbers. Still, the dataset was criticized as leading to privacy violations and Netflix faced a class action lawsuit.<sup>88</sup> The Prize was won on September 2009 by a joint-team "BellKor's Pragmatic Chaos" consisting of seven researchers.<sup>89</sup>

Overall, these types of algorithms despite being highly innovative raise three series of concerns related to both quality and the internet’s structure. First, a minor problem is that these systems are only useful in the presence of high numbers of customers or participants. Without large numbers of participants an algorithm will not identify individual preferences properly, thus is not reliable and authoritative as a quality standard among users. Second, and more importantly, recommender systems raise significant privacy concerns. One question is whether sites like Netflix or YouTube are entitled, through their terms and conditions to use personal data to create suggestions that are directed toward

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<sup>84</sup> <http://www.google.com/policies/>

<sup>85</sup> Ivan Maryanchyk, *Are Ratings Informative Signals? The Analysis of the Netflix Data* (2008) NET Institute Working Paper No. 08-22, available online at: [http://papers.ssrn.com/ezip-prod1.hul.harvard.edu/sol3/papers.cfm?abstract\\_id=1286307](http://papers.ssrn.com/ezip-prod1.hul.harvard.edu/sol3/papers.cfm?abstract_id=1286307)

<sup>86</sup> *Ibid.*

<sup>87</sup> For more detailed rules see: <http://www.netflixprize.com/rules>

<sup>88</sup> <http://www.wired.com/threatlevel/2009/12/netflix-privacy-lawsuit/>

<sup>89</sup> Their algorithm is published here: Andreas Toscher (et al.) *The BigChaos Solution to the Netflix Grand Prize* September 24, 2009, available at: [http://www.commendo.at/UserFiles/commendo/File/GrandPrize2009\\_BigChaos.pdf](http://www.commendo.at/UserFiles/commendo/File/GrandPrize2009_BigChaos.pdf)

other users. Another question is related to the aggregation of data from different sites and their use in recommender systems as happens on YouTube. Third, in connection with privacy but more directly tied to quality, we worry that systems such as recommender algorithms may lead to a fragmentation of the internet as that advocated by Cass Sunstein.<sup>90</sup> Indeed, as seen through the Netflix example, the recommender system appears to “replace” the social network through bonds artificially created between people who neither agreed nor will ever meet, consequently separating users into “personal” internets, which they cannot control. One thus realizes the importance of having the option to opt out both of a system that uses one’s data and of a system that confines users to an internet tailored to themselves, as Negroponte had predicted.<sup>91</sup> Finally, a concern is that if video were regulated only by process-based mechanisms and algorithms something would be missing: one would have access only to the quality preferences of (1) themselves, (2) their friends and networks, (3) people that have the same preferences as them somewhere in the world – even if they don’t know them. The question then returns: is access to mere preferences access to quality?

As seen, quality is about more than the preferences of people who think like us and about more than the cumulative effect of individual entertainment experiences. Another form of standard is needed, one that goes beyond the crossed-use of preferences and social ties and that forces us to think of the quality of a video as of something special, something that is not the mere output of a series of clicks and algorithms.

#### **II.4. Community that regulates: comments, super-users, moderators and curators**

A second layer of standards is thus needed, one that goes beyond mere procedure and enters the substance of quality judgments.

##### **II.4.a Comments**

Comments are a mode of expression of preferences which contributes in indirect ways to constituting overall levels of quality. In fact, an appreciation embodied into a comment seems to acquire new value because it is not the mere expression of taste in a vacuum but an invitation to discuss. The study of comments on online video platforms is widespread.<sup>92</sup>

Most of the comments one sees under a video on YouTube or Vimeo are short two-word sentences such as “love it” “great video!” “this channel is fantastic” etc.<sup>93</sup> Only about half of the

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<sup>90</sup> See Cass Sunstein, *REPUBLIC.COM 2.0* (Princeton University Press, 2007)

<sup>91</sup> *BEING DIGITAL* (1995)

<sup>92</sup> See Patricia Lange, *Commenting on Comments: Investigating Responses to Antagonism on YouTube*, paper presented at Society for Applied Anthropology Conference, Tampa, Florida (2007)

<sup>93</sup> Or the equivalent negatives.

comments go into more depth than a mere appreciation of the kind explored above. Yet with comments, unlike with other acts of rating, disapproval is not only possible, it is inevitable. This leads to a series of problems. It is arguable that far from pushing quality up, comments on YouTube appear to bring the overall quality of the site down. Patricia Lange, in her ethnological studies of YouTube as a community, provides interesting insights on the way discussions and video comments can shape the environment in which videos are produced. She studies negative comments and their evolution in an environment such as YouTube where physical appearance is not hidden.<sup>94</sup> Her discussion of “videos of affinity” shows that some videos, even on a widely accessible platform such as YouTube, are targeted at specific audiences that share particular feelings with the vlogger or video-maker.<sup>95</sup> In general she argues that because of the importance of communication in these spaces, quality “is not necessarily the determining factor in terms of how videos affect social networks”<sup>96</sup> but empathy and communication count more.<sup>97</sup> It is agreed with Lange that the type of audience and discussions that accompany the video shape the way video-makers produce their work.

But is quality irrelevant on YouTube? The answer seems to be no. First, as Ego Muller points out in an interesting study on quality on YouTube, the fact that Lange recognizes some discussions on YouTube to relate to quality shows that quality *is* an important concern for YouTube users.<sup>98</sup> Quality, indeed, has the crucial potential to foster debates on the site about its meaning, thereby constructing the community’s aesthetic and cultural norms. It is safe to assume that YouTube users are conscious of aesthetic quality, though not in an articulated and reflected way.<sup>99</sup> However, if Lange divides too sharply elitist notions of quality and social practices: Muller himself adopts a view of quality as the value defined by professional videomakers. Both assume an unnecessarily static notion of quality as “elitist” when quality can be communicative and come from the bottom up.

Muller’s view of quality as a practice constructed through the community’s discussions, however, is appealing and reflects Eppler’s theory of “information quality”<sup>100</sup> as a contextual notion whose pre-defined criteria are useful in that they serve as a starting point for further discussions about what quality is in the concrete situation. His analysis seeks to bridge the divides between online creative impulses and quality, between social aims and aesthetic means. Expanded in this sense, Muller’s view of YouTube as a community regulated by debated criteria of professional and amateur quality is very insightful.

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<sup>94</sup> Patricia Lange, *Commenting on Comments: Investigating Responses to Antagonism on YouTube*, paper presented at Society for Applied Anthropology Conference, Tampa, Florida (2007)

<sup>95</sup> Patricia Lange, *Videos of Affinity on YouTube* in THE YOUTUBE READER (2009)

<sup>96</sup> Patricia G. Lange, *Publicly private and privately public: Social networking on YouTube*, JOURNAL OF COMPUTER-MEDIATED COMMUNICATION no. 1, 2007, pp. 361 – 380

<sup>97</sup> *Ibid.* *Videos of Affinity*

<sup>98</sup> Ego Muller, *Where Quality Matters: Discourses on the Art of Making a YouTube Video*, in THE YOUTUBE READER (2009)

<sup>99</sup> *Ibid.*

<sup>100</sup> MARTIN EPPLER, *MANAGING INFORMATION QUALITY* (Springer, 2003)



## II.4.b. Quality moderation

### II.4.b.i. In general

Benkler's model of "commons-based peer production"<sup>101</sup> which consists of a "decentralized, collaborative and non-proprietary" form of production adapts the decentralized model of the invisible hand to the internet and the information culture. Differently from invisible hand *explanations*, his *model* serves both to explain what is and to design what is to be. Benkler importantly shows that decentralization is possible and occurs at all levels of the chain of cultural knowledge production. He isolates the utterance or production of content, from the mapping of knowledge into the knowledge map and finally from the distribution of content. All of these acts are performed in a decentralized way through the scaled inputs of various individuals situated at different end points of the network. Benkler subdivides the act of mapping quality into two dimensions: quality's subjective dimension ("relevance") is the extent to which certain content matches the subjective purposes of an individual; and its objective dimension ("credibility") amounts to pre-assessed non-individualized quality standards. Overall, it appears from his analysis that relevance and accreditation systems can work in several different ways: through voting by general users or logged in users (more control), which can be combined with moderation (even more control) as well as super-users who may in turn become moderators.

Leaving aside the fact that Benkler, like others, also appears to conceive of quality partly as a question of "objective" (elitist/criterial) standards imposed by some higher form of authority; his study suggests that even in a networked environment where individuals have the ultimate power to change things, top-down forms of moderation and accreditation exist. As seen, those who run an open platform such as YouTube or Vimeo constantly struggle to balance user-freedom, autonomy, the need to ensure compliance, copyright, privacy concerns and some level of content quality. For this reason, a degree of supervision over what individuals actually may do on a site is necessary, but the degree varies from site to site. This supervisory role, characteristic of most online user-based platforms, may in turn prove very valuable as a means of regulating quality and enabling individual users to create it, access it and promote it.

### Wikipedia

Wikipedia is a paradigm example of an open community of knowledge production whose quality checks are almost exclusively peer-reviewed: users are in charge of reviewing the articles' accuracy and top-down editorial controls occur in very rare circumstances. There is the possibility on Wikipedia to block users' IP addresses when they have committed acts of vandalism as well as the ability of site administrators to block particularly contentious articles. Those limits on peer-review, however, do not

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<sup>101</sup> THE WEALTH OF NETWORKS, p 60

mean lack of openness but rather enhancement of the autonomy and motivation of others in the community.<sup>102</sup> Wikipedians can award each other “stars” of merit. The Wikipedia soft standards, the “policies and guidelines” developed by the community itself, foster a sense of responsibility and empowerment among Wikipedians.<sup>103</sup>

Overall, Wikipedia is an example of how the crowd can alone choose its standards, through some design mechanisms that, though they appear as constraints, in fact empower the community to flourish.

## Quora

Quora, a question-driven site that inspires itself from the free software and Wikipedia communities, has a similar organic way of implementing its policies. Quora is one of the most user-friendly, question-driven, peer-reviewable and quality-driven communities on the internet at present. The site’s aim is to provide a space where users can find and share high quality responses to a pool of questions. It is mainly a place to learn and exchange new information.

Quality is maintained through filtering: Quora administrators tend to vote down or hide questions and answers of poor quality. Good quality on Quora appears to be about clarity and the ability to seek out, convey information.<sup>104</sup> Quora has two types of superusers: reviewers and admins. *Admins* are volunteer users selected through a formal procedure by the Quora staff: “Quora (the company) has sole authority to appoint and retain admins on the site. Admins serve 3-month terms. At the end of each term, Quora will re-appoint certain admins from the prior term and may decide to appoint new admins.”<sup>105</sup> They are organized in two teams: a Content and a Policy team. The *Content team* moderates content by “manag[ing] the reviewing of questions, answers, and topic edits through the review queues,” “collapsing answers on individual question pages,” “maintain[ing] topic ontologies, including locking and unlocking them in cases of vandalism” and “elect[ing] reviewers ...and help[ing them] with any issues they have.”<sup>106</sup> The members of the *Policy Team* interpret site policies in edge cases, draft and revise site policies, decide when to block editing and ban users, handle appeals from users about moderation actions.<sup>107</sup> Users have the possibility to appeal admin decisions by emailing the Quora staff.<sup>108</sup> *Reviewers* on the other hand have a less significant role, they have fewer privileges than admins

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<sup>102</sup> See JOSEPH REAGLE, GOOD FAITH COLLABORATION: THE CULTURE OF WIKIPEDIA (MIT Press, 2010), Chapter 4, *The Puzzle of Openness*.

<sup>103</sup> Ibid. Chapters 3 and 4.

<sup>104</sup> See Quora’s policy on good questions: <http://www.quora.com/Quora-Question-Policies-Guidelines/What-makes-a-good-question-on-Quora-What-are-the-guidelines-for-writing-good-questions> and good answers:

<sup>105</sup> See “How are new admins on Quora selected?” <http://www.quora.com/How-are-new-admins-on-Quora-selected>

<sup>106</sup> See “How Admins are Organized” <http://www.quora.com/oldbodnickposts/Quora-Moderation-How-Admins-are-Organized>

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

and are generally selected by the admins themselves.<sup>109</sup> On Quora there are no badges, karma or other reputation recognitions because the reputation is formed through individualized answers. The difference with Wikipedia is that while on Wikipedia all editors contribute to producing an un-authored article, on Quora every answer is one's own. Answers may be anonymous but are traceable by site managers to their authors. Reputation on the site constructs itself in ways other than tangible awards.

Overall, the site uses a number of devices to regulate content quality: expert-led moderation, an appeal system, recommendation of relevant content by experts and site admins, a recommender system that matches users to questions (and vice-versa) based on the interests and skills a user has listed, a sophisticated question search tool. As with Wikipedia, on Quora top-down controls and bottom up content production, moderation and crowdsourcing of skills and knowledge, go hand in hand. There is much to be learned by the way the Quora site is structured, also with regard to online video platforms.

#### **II.4.b.ii Online video**

Wikipedia and Quora's designs allow users to exercise a degree of power sufficient to run, yet insufficient to spoil the activities that take place on the two sites. Can such a balance be achieved for video? Sites that host videos rarely develop communities as functional and well organized as knowledge-seeking sites like Quora or Wikipedia. Yet YouTube and Vimeo represent different attempts at finding such a balance between open creation and assessment on the one hand and moderation on the other hand.

#### **YouTube**

YouTube leans toward a hands-off approach: site managers do not moderate quality on the site and mainly intervene to adjudicate disputes between users and improve the site's technical features. As seen above, YouTube is a site with a large quantity of diverse content. The quality of videos is monitored mainly through user-comments, and site managers do not make judgments of substance on a video's quality. Software-enabled mechanisms do some part of the moderation, but as discussed, they are not sufficient to actually moderate quality. Moderation on YouTube is minimal. While serving an important function, not least in promoting new artists, the site does not promote the best quality content to users. User-freedom is sovereign, and the site contains few quality checks, mechanized and operated by a computer rather than human moderators. Consequently "quality" is not optimal.

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<sup>109</sup> See "What special privileges do Quora admins and reviewers have?" <http://www.quora.com/Quora-Admins/What-special-privileges-do-Quora-admins-and-reviewers-have>

## Vimeo

Vimeo, on the other hand, seeks a more balanced approach, more similar to the one adopted by Wikipedia or Quora. The site is a community of video-lovers. It is divided into organic groups of interest and each group has its own moderators, who generally include the creator of the group (any user) and any other person that has been designated by him or her. Abusive users can be “blocked” on the site, and users can also unfollow others or flag videos that they find inappropriate on the site in general or in their group in particular.<sup>110</sup> Moderators have special powers within the group but not on the Vimeo site at large. Vimeo staff supervise the site as a whole and choose some highlights of videos they then recommend to the community of users.<sup>111</sup>

On YouTube, the best content is difficult to find given the only quality measure is popularity. On Vimeo, high quality content tends to be seen more than low quality content, not because it acquired more views but rather because it was positively appraised by the community and its moderators. Despite there being the same videos uploaded on both sites, therefore, access to good videos, or interesting videos, or beautiful videos is far greater on Vimeo. This shows that a level of moderation can enhance public users’ access to quality content.

### II.4.c. Quality curation

Another type of moderation fades into an activity called “curation.” As a general trend, the role of the artist and of the archivist are fading into one another online. Similarly, the role of the user increasingly matches that of a curator: Twitter users become curators when they share links they care about, bloggers are curators of content when they hyperlink a discussion to some further video or article illustrating their point. In fact, “shares,” “views” and “likes,” the signals discussed above, reflect in significant ways how content is “curated” by a multitude of internet users. The “Kony 2012” video became popular not though YouTube’s algorithms but because it was shared and discussed by many influential internet users among whom Angelina Jolie, Oprah and other stars.<sup>112</sup> As a consequence, the video created a huge viral wave of discussions across the web which reached beyond small circles of human rights activists or people familiar with Uganda’s history.

While it can be said that all users curate the web in a basic sense, most of them do not do it intentionally: we are frequently exposed to links posted by friends or strangers which we find annoying and do not want to see. Avoiding entanglement of users in a web of unchecked and uncontrolled content is a goal for community site managers and is a legitimate aim for regulators. On the other hand, however,

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<sup>110</sup> [https://vimeo.com/help/faq/member\\_block](https://vimeo.com/help/faq/member_block)

<sup>111</sup> <https://vimeo.com/about>

<sup>112</sup> See Antonia Kanczula, *Kony 2012 in numbers*, (April 20, 2012) THE GUARDIAN, available at: <http://www.guardian.co.uk/news/datablog/2012/apr/20/kony-2012-facts-numbers?newsfeed=true>

the internet can offer a cure for its own disease. The task of regulators who seek to promote greater quality on the internet is to strike the right balance between the benefits of malleable environments tailored to the individual and the benefits of allowing some users the power to become super-curators and impose content on others. Vimeo manages to do just that: avoid loss in a web of bad quality content by actively promoting “good” videos to its users. Another cure is to be found in the role of super-user-curators. The “brainpicker” Maria Popova, for example, curates the site [brainpickings.org](http://www.brainpickings.org).<sup>113</sup> She avidly tweets and blogs about new interesting and arty content everyday and is extensively followed on Twitter.<sup>114</sup> The content she curates encompasses videos, artworks, crafts, books, poetry, scholarship, etc. She is, as she defines itself, a prolific “interestingness hunter obsessed with combinatorial creativity.”<sup>115</sup>

“Interestingness” hunters on the web are growing in number and importance, they also contribute significantly to the promotion of quality and “interestingness.” On the web of the future we can thus hope to see good content flourish, perhaps to the detriment of canned content and “crap.” A note of caution, however: the web of the future might also be less transparent and more fragmented than the one we currently have. Thus quality and community are to be promoted together, each reinforcing the other.

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## Conclusion

To finalize the map of the different quality regulation mechanisms, it appears that the struggle between openness, transparency and quality can be solved by a combination of tools that involve human and computed curation. The role of human curation and of the community of users, in any case, is paramount.

At the beginning of Part II, I offered a spectrum of possibilities that goes from ( $\alpha$ ) an environment where total liberty is supported by procedural mechanisms that ensure the free engagement and participation of internet users to ( $\omega$ ) a community that imposes content of substantive “quality” upon its users. Now is time to list a number of characteristics that any regulatory model must possess to fulfill the conception of quality developed in this paper.

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<sup>113</sup> <http://www.brainpickings.org/>

<sup>114</sup> See [http://www.nytimes.com/2012/12/02/fashion/maria-popova-has-some-big-ideas.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2012/12/02/fashion/maria-popova-has-some-big-ideas.html?pagewanted=all&_r=0)

<sup>115</sup> <https://twitter.com/#!/brainpicker>

*Any model should:*

- Maintain an open and generative internet infrastructure. In particular maintain the freedom of software developers and engineers to innovate at every layer of the internet structure.
- Maintain the freedom for users to create, access, consume, comment, share, remix the work of others within the limits imposed by copyright and privacy laws.
- Allow individuals to express their tastes and individual preferences about the quality of video content they watch and embody them into “signals” of quality.
- Promote dialogue between users.
- Allow individuals the freedom to organically elaborate soft standards of quality within autonomously defined communities of users.
- Provide for mechanisms that allow online users to accredit merit in the creation, curation and assessment of online video content.
- Not undermine the ability of non-commercial sites and video platforms to flourish on the internet.

*Any model, on the other hand, should not:*

- Equate preference signals and popularity metrics to quality standards.
- Use mechanical systems of quality detection without providing for organic means to tailor such detection to individual needs.
- Separate quality assessment from the community of users by, for instance, promoting top-down forms of regulation without involving the community.
- Promote fragmentation and isolation among and between internet video creators and viewers.

At the beginning of Part II I also outlined two points on this spectrum: the liberty model and the gardened model. Should one model be preferred over the other? My sense is that the ideal model is somewhere in the middle, close to what has been done on Quora and Wikipedia, and on Vimeo to an extent. Without picking one and putting the other model aside, I offer a couple of reasons why the gardened model is important. First, it could prove invaluable in relation to online education and learning, a growing field. Secondly, the more algorithms and systems that rely on user-preferences become powerful and effective in segmenting user-experiences as in the example of Netflix, the more the gardened model will become of guidance when designing internet video (and non-video) platforms. Overall quality as a collective norm makes great sense online, and this is true for online video and any other type of user-generated content. Internet users should be made aware of their important responsibility as curators, evaluators and regulators of the content they are exposed to.