Proceedings of the International Interdisciplinary Conference Towards a Sustainable Online Community

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Contents

Speakers marked with an asterisk (*) prefer to remain anonymous.

Editor's introduction

Sustainability, taken seriously, affects everything. Even if we narrow down the field of our research to the question *how to further the formation and stability of sustainable online communities*, several fields of science come into play.

- Of course, studying the behaviour of communities and their members is subject of sociology and psychology, and even touches biology.

- Since every online community needs software tools, our question touches the field of computer sciences. How do the software tools affect the sustainability of online communities? Are the software tools themselves sustainable, or can they be made sustainable? How do you even define that?

- Online communities are often hosted by companies whose business models conflict with the goal of sustainability. What other business models are possible which don't harm, or maybe even further sustainability?

. . . and so on.

There are many examples for online communities, dating back – at least – to the age of the Bulletin Board Systems (BBS) [1] and the emergence of the Usenet [2] in the 1980s.

When I was a student, I took part in all that. Sometimes I felt "at home" in some of these communities, even for an extended time. But then something changed. Somebody posted a controversial opinion – or just a plain rant – and got hooted down by the others, which resulted in a heated discussion – or just a plain quarrel, called "flame war". Some people, the so-called "trolls", even enjoyed triggering flame wars and destroying communities.

To keep all this under control, software tools such as rating systems were developed, and humans invested enormous amounts of work to moderate the communities. The result was moderately satisfying. Productive discussions were possible again, but trolls and flame wars didn't vanish. Many good people left the community because they no longer felt "at home" there.

After some decades of participation in various online communities I came to the conclusion that an open online community cannot remain peaceful and productive for some longer time. It cannot be sustainable.

Then a miracle happened.

On 25 March 2013, Randall Munroe started his online comic xkcd #1190, "Time" [3]. What looked like a boring animation of two people at the beach at the first glance, turned out to be an epic novel which even won a Hugo Award as the best graphic story in 2014 [4].

The story was hard to understand. Very hard. Software tools were developed to catch all details. In the forum discussing the comic, professional and hobby scientists worked together to analyse these details, accidentally forming an international and interdisciplinary working group. In parallel, artists from

various fields analysed the artwork and started to create fan-fiction. Readers of all ages joined the online forum discussing the comic. To get the big picture, these people formed a community.

A sustainable online community.

Trolls invaded the community, but it remained peaceful.

The comic ran for some time, and when it ended, everyone expected the community to fade away quickly. It didn't. Instead, the members used their creativity to create more artwork, including, but not limited to, graphics, songs, movies, and long stories related to the original comic. As of today (February 2016) the community is still active – more than two years after the comic ended – and it is still peaceful and productive.

What are the reasons?
Can we make it happen again?

This type of questions can only be addressed in an interdisciplinary effort, by scientists with some knowledge about online communities, who maybe even have experienced a sustainable online community.

Fortunately, such a working group already exists: In fact the same people who have built up this specific type of online community have the academic background and scientific tools to analyse it. Furthermore, they share the desire to find out how everything works, and don't hesitate to analyse themselves.

This is how the idea for this conference was born. The majority of the invited speakers was from the "xkcd: Time" discussion forum – people who met for the first time in the physical world, but immediately recognised each other as longtime friends, overcoming all differences in language, age, cultural background, and individual features.

But there was more than physical participation. Using live video streams, desktop sharing [6], and Internet Relay Chat [7], people in all parts of the world could – and in fact did – listen to the speeches, hold a speech, take part in the discussions, and even have fun together with the physical participants in the social event after the conference.

The goals of this conference were to investigate the preconditions which lead to the formation of a sustainable online community, and technical and social measures to further the formation and the stability of sustainable online communities.

The results are stunning. Of course there is no recipe of the type "do this-and-that, then you'll have a sustainable online community", but we have learned a lot about the mechanisms which can make an online community sustainable. We have developed plans for new software tools which might help existing online communities to become more sustainable [8]. We have learned about the interaction between the community and the individual which can be healing as well as toxic. We have learned how online communities are part of an ongoing

cultural shift which can help us to protect the environment. We all have gained knowledge in previously foreign fields of science.

The conference ended. The discussions are going on. Plans and experiments are being carried out.

If the results of this conference help people in the world to feel "at home" in an online community and to keep this "home" clean and welcoming, then this conference was a success.

Peter Gerwinski, February 2016

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[6] https://en.wikipedia.org/wiki/Desktop_sharing

[7] https://en.wikipedia.org/wiki/Internet_Relay_Chat

[8] One such tool has been implemented in the meantime and is currently being tested, see: http://1190.bicyclesonthemoon.info/facebug/

Part I

Articles

Sustainability and Online Communities
An Introduction

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Abstract

We translate the concepts of *integrated sustainability* [1] to information technology (IT) and to online communities. We give an overview over the *ENE Project* and explore potential technical and social measures to further the formation and stability of sustainable online communities.

What is Sustainability?

Sustainability in General

In public media, the term "sustainability" is in wide, even inflationary use [2]. In spite (or even because?) of this there is no wide agreement in the public about the precise meaning of "sustainability" as needed in a scientific context.

For the convenience of our readers in this interdisciplinary scientific cooperation we spell out our definition of *sustainability* and some fundamentals of sustainability science.

In this paper, the understanding of sustainability as a general term follows the definition [1] developed at the IAPS Symposium on Sustainable Environments (2013) [3]:

- *The conservation of the flora and fauna. This includes the protection of natural resources and the prevention of ecological climate change. [...]*

- *The creation and conservation of social justice and a cultural climate of peace and harmony. [...]*

The same paper [1] defines four categories of sustainability:

1. **Sustainability as a topic.** The market is regulating itself. Sustainability becomes an important market force.

2. **Weak Sustainability.** Regulate the market such that sustainability will be achieved by technological progress, e. g. by assigning a market value to externalised costs.

3. **Strong Sustainability** is the combined strategy of *consistency* (staying in the natural cycle, without using up ressources), *efficiency* (technological progress), and *sufficiency* (thinking about what is really needed).

4. **Integrated Sustainability.** Overcome the anthropocentric view. Live in harmony with nature.

Minor categories of sustainability aren't inherently bad. They are important steps on the way to strong and integrated sustainability.

Sustainability in Information Technology

How can we apply this definition of sustainability to software?

One well-known approach by M. Dick, S. Naumann, and N. Kuhn focuses on the interaction of the software with the physical world [4], treating software like any other investment goods.

While this makes it easy to treat software as one part in a bigger system, it disregards an important special feature of software and other digital resources: They can be copied without loss. They are not diminished when they are used. In contrast to physical resources (e. g. water), the supply of digital resources is potentially infinite. Whenever the usage of digital goods gets restricted by copyright or patents, this is an artifical restriction which takes away sustainability from the digital good.

The *Digital Sustainability* approach by M. M. Dapp [5], M. Stürmer [6] and V. Grassmuck [7] takes this into account:

> *Digital resources are handled sustainably if their utility for society is maximized, so that digital needs of contemporary and future generations are equally met. Digital needs are optimally met if resources are accessible to the largest number and reuseable with minimal restrictions. Digital resources encompass knowledge and cultural artefacts represented in digital form, e. g. text, image, audio, video, or software. –* M. M. Dapp, 2013 [5]

The objective is to *use resources in an optimal way.* For physical – natural – resources this means not to exhaust them, but to protect them. For virtual – digital – resources this means not to hoard them, but to share them. Dapp's definition of digital sustainability is the digital equivalent of the first half of the IAPS definition of sustainability, *protection of natural resources.*

What about the second half of the IAPS definition, *social justice*? How can digital resources, and in particular their property that they can be copied without loss, affect human rights?

Important cases where ressources are misused to annoy or even harm other humans are:

- flooding individuals with unwanted information,

- flooding communication platforms with lots of fake information to create a "fake truth",

- "stealing" personal data of individuals and using it against them,

- hoarding personal data of large groups, and using it to gain power over them.

These cases of misuse are possible because of the ease of copying digital ressources:

- Advertising emails can be sent at virtually no costs, so they are sent out by millions.

- It is not difficult to create software which fakes thousands of identities who support a specific opinion on communication platforms.

- Since the originals does not vanish when personal data get "stolen", this can be done without traces.

- Several large companies hoard the personal data of their customers and even sell these data.

It is worth mentioning that these problems *cannot* be solved by taking away the ease of copying via technical and/or legal means. Such measures inhibit or even forbid the sustainable use of digital resources (using them in a way that their utility for society is maximized), but they have proven themselves ineffective against illegal activities, or even encourage them [8].

The common property of the cases above is that they affect the flow of information to and from individuals. It should be the right of the individual to control this flow. This is the manifestation of social justice in the digital world, *digital rights*.

In conclusion, Sustainable Information Technology is characterised by

- using the infinite supply of digital resources such that their utility for society is maximised, and

- respect for the digital rights of individuals, which includes privacy and data protection.

The ENE Project

The Physical Room

The *Erlebnisraum Nachhaltige Entwicklung (ENE)* (Sustainable Development – Room of Experience) is a project at the Hochschule Bochum in the context of the exploratory focus *Sustainable Development.* The objective is to create a room with installations, primarily targeted to visitors of age 16–26, where they can "experience" sustainable development. One aspect of the project is to develop means to "measure" the visitors' awareness of sustainability before and after their visit to the *Room of Experience.*

The Virtual Room

Of course, the Room of Experience needs a representation in the Internet.

As a minimum, some web pages shall inform about the Room, the project, and sustainability in general. But the plans go beyond that:

- Some installations can be experienced online as well as in the Room.

- Some installations produce data which can be shared with the Internet.

- Visitors – both of the Room and of the web pages – can leave comments in a virtual "guestbook".

- Internet terminals in the Room enable visitors to interact directly with visitors of the web pages.

- QR codes in the Room make it easy for visitors to use their own mobile Internet hardware instead of the terminals.

Ideally, this will result in an online community discussing plans to make their lives more sustainable.

Sustainable Online Communities

Definition

We already transferred the IAPS definition of sustainability from the physical to the virtual world. Now how can we apply it to define a sustainable online community?

One part is the software used by the online community which must meet our criteria for sustainable software. But this is just the technical part. For a community consiting of humans the social part is essential, too.

- Besides the data, an online community has even more non-material goods: The time, the work and the moods of the humans involved. Unlike the data, these non-material resources cannot be copied without loss. To

qualify as sustainable, an online community must protect them. No human resources must be wasted in quarrels. A sustainable online community must be peaceful.

- To meet the criterion of social justice, an online community must not exclude anyone. A sustainable online community must be open for everyone.

- The human work to build the online community is a scarce resource. If the community falls apart when the first real problems show up, the work was wasted. A sustainable online community must be long-term.

- The human work to keep up the online community must be used such that their utility for society is maximised. Fun for the members of the community can be extended to fun for a larger audience. Artwork and knowledge created by the community can be shared with everyone. In this sense, a sustainable online community must be productive.

Controlling Singularities

Is it possible to further the formation of sustainable online communities?

Some big companies base their businesses on online communities, but their focus is not on sustainable communities in the above sense. Their point is not to maximise the utility for society, but to maximise their profit. For this reason, most of them don't meet the second criterion for digital sustainability, respect for the digital rights of individuals.

There are many voluntary initiatives trying to build up online communities around various subjects. In many cases they care more about the digital rights of their members than companies do.

Typically, online communities drift into flame wars, sooner or later. From observations over many years, one is tempted to say that this is inevitable. Nevertheless it happened to the author that he dicovered an online community which indeed meets the above criteria for sustainability.

Discussions within this online community revealed that the other members shared this experience. We conclude that a sustainable online community is an exceptional state in the complex system of human society, a *singularity.*

Singularities are well-known phenomena in natural sciences. One classic example from physics textbooks is the driven pendulum, whose *mechanical resonance* can lead to a *resonance disaster.*

A pendulum has a preferred frequency, its *resonance frequency.* When a pendulum is driven at its resonance frequency, its amplitude grows fast until either the energy input matches the energy loss due to friction, or the pendulum breaks mechanically. This so-called *resonance disaster* must be kept under control e. g. in the construction of bridges.

The same phenomenon is useful for mechanical clocks whose pendulums oscillate for a long time with just a minimum of energy.
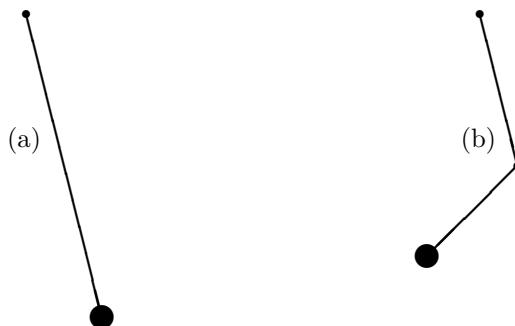
Figure 1: (a) pendulum and (b) double pendulum

Pendulums are easy to predict. This situation chances when a pendulum is attached to the end of another pendulum. Such a *double pendulum* (see fig. 1) is a classic example in *chaos theory*, a field of mathematics and theoretical physics.

A classical pendulum behaves in a *regular* way, which allows to predict its behaviour over a long time. The behaviour of a double pendulum is *chaotic* and does not allow for long-time predictions. Even the smallest deviation in the initial state will cause a completely different behaviour in the long-term future. This phenomenon is called the *Butterfly Effect.*

Like their regular counterparts, chaotic systems can have singularities, too, but they are much more difficult to predict. When a pendulum for a clock is designed, its resonance frequency is easy to calculate from its length. When designing a chaotic system, it is much more difficult to predict its future behaviour.

An important example for a supposedly chaotic system is world climate. Other examples are collectives of humans, like the stock market – or an online community.

Is is possible to set up parameters for a chaotic system in such a way that it evolves into a desired singularity?

As researchers at the Automation and Control Institute (ACIN) of the Vienna University of Technology (VUT) have demonstrated, it is possible to bring a double pendulum under control [10]. The pivot point is fixed on a cart whose tiny movements make it possible to bring the double pendulum into a state of unstable equilibrium and to keep it there (see fig. 2).

Is is possible to set up parameters for an online community in such a way that it will evolve into a sustainable online community?

Of course there is no pivot point we can attach a cart to, but in the preparation of this conference we have identified some parameters which can drive an online community away from a sustainable state. This gives hope that we can also identify parameters which further the formation and stability of sustainable online communities.

Figure 2: Double pendulum in a state of unstable equilibrium

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(To be continued.)

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Bringing a Double Pendulum Under Control: http://youtu.be/tyyitW4WS14

Spontaneous but Long-lasting Online Communities — A Case Study

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Abstract

I outline a few of the challenges to long-term sustained communities, particularly between people who seldom or never meet face-to-face, and use the **xkcd** forum discussion group for the **xkcd** #1190 "Time" comic as an example.

This paper represents the ideas I had prepared to bring to a group discussion session during the conference *Towards a Sustainable Online Community* at The Bochum University of Applied Sciences, on the 12th and 13th February 2015. I was to "lead" the session by video-conference link, with everyone else encouraged to speak up either audibly or by sending tweets.

Introduction

These ideas are similar to many that you have heard, and will hear, in this conference.

I want to encourage everyone to make additions, comments, and corrections, to any and all points in my talk. For this purpose, I have provided a full outline at `mrob.com/time/sustain` and encourage you to send a tweet containing **@mrob__27** (note the underscore) if you wish to provide comments silently.

I will begin with a few ideas to provide a background: how I define "sustainability", some challenges I see to the particular type of sustainability we are concerned with here.

Most of my talk will summarise the history of the xkcd 1190 "Time" thread, and its community, as I experienced it. My perceptions suggest many questions. I suspect some of these could be answered immediately by sociologists, while others will be open problems for quite some time.

As I am not a sociologist, I intend only to raise questions, and omit a conclusion, but suggest further research.

Background — Challenges to Sustainability

An old and often-repeated expectation associated with the Internet was the promise of "bringing the world together", but this does not appear to have happened in the ways that a person my age might have hoped as a child. One

could say that when viewing the actual Internet and its consequences, I am "disappointed".

Since I can easily find many other people with precisely the same interests and opinions, I could limit my social interaction to only those sorts of people. The Internet enables this behaviour, and this has been related to political polarisation, for similar reasons as in older theories concerning the increased availability of older media (television, radio, newspapers, pamphlets, etc.). The fear is that media offering many very narrowly-focused points of view encourage people to only interact with, or listen to, those with whom they agree. For example, at [29] is a study of politically liberal and conservative people in the United States, and includes broadcast and Internet media. Those who wish to, can find quite a bit of evidence to support a *correlation* between the availability of niche communities and political polarisation — but there are many other things going on.

If we merely observe the correlation, we might hypothesise one "disappointment" of the Internet — there are evidently very few communities of diverse opinion, as compared to the large number of communities of highly-aligned and narrow opinion. Is it also true that such diverse communities are unsustainable?

If most Internet communities draw their membership from a small fraction of available participants, other "disappointments" are suggested: ghetto culture (in which a group's ideas are limited by a relatively small population and lack of intercultural exchange); balkanisation (in which different groups, isolated from each other, find their ideas and ways of expression are so highly contrasted that it is hard to communicate, agree or interoperate); inefficiency or underutilisation of talent (a society comprised of "narrow" groups each lacking diversity may be unable to complete projects that require diverse specialised labour).

As with earlier media, the Internet facilitates the distribution of politically volatile propaganda. As cinema and radio were used in the spread of communism nearly 100 years ago, the Internet has been used by al-Qaida and ISIL (*Islamischer Staat*). I will just mention that these modern groups disapprove of the ways the Internet has spread the ideas and culture they do not like, and I suggest that no matter what your political views, you can probably find some other views that you highly disapprove of. Therefore, to the extent that the Internet enables those ideas to be spread, the Internet would be "disappointing".

In the early history of the xkcd 1190 "Time" thread, which we will get to next, it was suggested that most any Internet discussion group "ultimately devolves to flame wars". This opinion reflects another disappointment of the Internet, held by many if not all, i.e. that communities cannot be sustained over the long term. This belief took hold fairly early in the history of whole-society Internet access, for example in Lackaff [2] you will find a summary of the experience of 1980s BBS "WELL" founder Howard Rheingold, and a statement that (in Lackaff's words) *"Now that membership in many online communities is no longer limited to an elite, idealistic subset of the general population, it seems that a community needs more than love to meet both of Rheingold's ideals: diversity and freedom of expression."* Modern versions of this "inevitability of flames" theory seem to profess that *any* community, no matter how narrowly-focused

(see xkcd 1095 [7]), will end in flames — so perhaps the element of diversity *vs.* homogeneity is only a minor factor.

I must also mention the more mainstream and commonly-discussed type of "sustainability" we aspire to: ensuring the long-term viability of our planet as a physical environment for life, including humans. Much advancement of human culture has come about through communities that were, and still are, maintained through the frequent and expensive travel of their members to common meeting-spots (a phenomenon that is much more pronounced in my own country). These communities include businesses, schools, sport and other recreational organisations, religious groups, the international academic research community, and so on. For example, in the United States most employed persons travel much farther, on a daily basis, than was common or even possible 150 years ago. In the future we need an economy that is fully carbon-neutral if not carbon-negative. Many of the communities that now depend on travel will need to reduce their carbon footprint, and remote interaction through the Internet is an obvious path towards that goal — but we need to address "disappointments" like those I just described for that to be a realistic possibility. Thus, though the environmental type of sustainability is commonly viewed as more urgent and important than the sociological type, I would argue that the two go hand-in-hand.

The "OTT" as a Case Study

Establishment

A community using the name "OTT" (*"One True Thread"*) is centered around the users of a single thread[9] in the discussion forum [5] of the webcomic **xkcd** [3]. The community generally self-identifies as being spontaneous in origin, long-lasting, diverse, and for the most part free of "flames" and "trolling" without the need for active moderation. Their entire history is thoroughly documented, in original words, by the forum itself which serves as a permanent, public archive. The OTT therefore makes an ideal case study for this discussion.

The **xkcd** fora are controlled (and funded) directly by **xkcd** itself, and tend to be used primarily by **xkcd** readers. As a little research will quickly reveal, the **xkcd** webcomic is eclectic but tends to be focused on various "hard sciences" (with emphasis perhaps on computer science and mathematics) and popular culture (with notable emphasis on Internet-related things). The users of the fora are thus of diverse background, having little in common apart from knowledge of **xkcd**, Internet access, and fluency in the English language.

Each **xkcd** strip gets its own discussion topic. Comic #1190 "Time" [8] (hereafter called simply *Time*) was published beginning on the 25th March 2013, a Monday. (In this paper, when necessary I will use the United States Eastern Standard time zone, UTC-05:00, because it is the time zone of **xkcd** author Randall Munroe, and also my own personal time zone.)

Unlike all previous **xkcd** comics, *Time* was configured through a variety of technical measures to change every half-hour for the first five days (120 hours),

automatically displaying a new "frame" at precisely 00m00s and 30m00s past the hour in any JavaScript-enabled browser, simultaneously everywhere in the world. It was also arranged in such a way that no past frames could be viewed unless users took some action to preserve either the frame images themselves or links to their static URLs on the image servers; these image URLs were intentionally obfuscated through a double-redirect and the use of seemingly-random strings. The content [12] was otherwise unremarkable (by **xkcd** standards) during this initial five-day period.

As the discussion in the OTT reveals, many **xkcd** fans remained in contact with the Internet for a substantially greater fraction of the day than would have been typical for them, specifically for the purpose of seeing the next frame(s) of *Time*. Though the comic up to that point contained very little dialogue, humour, social commentary, etc., the OTT discussion included much speculation (largely humourous in nature, but also largely serious) about what was *about* to happen next. Objectively, there was very little concrete subject matter to sustain an ongoing 24-hour-per-day conversation, but the OTT nevertheless added approximately 25 posts per hour during the first 48 hours [23] and 50 per hour after that (when there was a new **xkcd** strip, #1191, to attract the attention of anyone wishing merely to learn about whatever was on the `xkcd.com` front page). Thus, the "core members" of the OTT (which I define as those forum members posting messages to the thread at least once per day), were by self-selection comprised of 1) **xkcd** fans who were 2) interested in staying around to view the next frame, who were 3) prone to wild speculation and other types of creative thought, and who 4) wished to communicate with others fulfilling these criteria.

The Transitions of the Fifth Day

As the frame number of *Time* reached the low 200's, an annual **xkcd** fora tradition called "Mod Madness" began. During Mod Madness, many common words are automatically changed by the forum software, so that, for example, a post containing the words *What do you think they would have a trebuchet for?* is altered to instead read *hwæt do eow reckon they woll-did have a ballistae for?*. This tradition, ostensibly a chance for the forum moderators to let off steam, often results in strife and drives some of the "more serious" participants away permanently. Possibly as a warning about these effects, the Madness announcement [13] very clearly stated, using a JPG image to prevent the message itself from being altered, *"If you can't possibly tolerate your VERY IMPORTANT DISCUSSIONS on a webcomic forum being momentarily disrupted, I suggest taking this opportunity to go outside, take a walk, ..."* and continued with other intentionally satirical suggestions of what an annoyed participant might do.

The Madness began during *Time* frame 192 [21], at 11:30 PM on Thursday the 28th March, and grew in effect as word-filters were steadily added. One filter in particular made it impossible for the **xkcd** forum to be used for announcement of permanent links to past frames of *Time*. Possibly for this reason, and at Munroe's request [26], 11 hours later the senior forum moderator made a special

change affecting only the OTT [14]. From that point onward, only the contents of quoted text (i.e. text from an earlier forum message contained within a later forum message) were altered by the word-filters (and only because the forum software could not distinguish such text from an author's original typing). The Madness ended entirely at *Time* frame 309, 8:00 PM on the following Monday (only coincidentally April Fool's day), and also at that time, all automatically-altered text in earlier posts reverted to original form.

It is to be noted that the Madness affected the OTT less than if it had continued in full for the entire 4 days. One could hypothesise that the OTT's collective behaviour was influenced by this "special treatment", but it seems [27] that OTT members did not perceive it as special treatment at the time.

The Madness coincided with a weekend, which also brought a demographic change in forum participation — many participants who mainly access the Internet during the week (perhaps from work or school) were temporarily less active, whilst others who only access the Internet on weekends became more active.

The Madness also coincided with the slowing-down of the *Time* frames, from two frames per hour to one per hour, an event that happened at the end of the day (midnight) on Friday. With a slower frame-rate, there was even less in the *Time* comic that one could discuss. Any participants who were waiting for the next frame (perhaps staying late at work or staying up late at home) necessarily had to wait twice as long before having the chance to see the next bit of the comic.

Any three of these events (the Madness, the demographic change of the first weekend, and the slowing of the *Time* frames), or any combination of these events, could have had an effect on the OTT membership, or on its "culture" as reflected in the tone and content of discussion. The only thing that is clear is that, by definition, anyone who continued to participate in the OTT through these events must have been "compatible" with, or at least minimally tolerant, of the events and their effects. Perhaps these events served to "immunise" the community during its critical formative first several days by ensuring that the membership self-selected itself towards more tolerant attitudes. It is to be noted that some OTT members did leave the forum, but returned after the Madness ended; these persons could be considered demonstrably "tolerant" in that their absence was temporary.

A Puzzle-Solving Culture and Specialisation

Time continued for months. Though the initial frenetic pace of OTT posting slowed down somewhat, participation was high enough (and sufficiently timezone-agnostic) to keep the thread active continuously for the entire four months.

The story presented in *Time* became gradually more confusing, with dialogue [11] and events that had no clear explanation, suggesting a long story of the mystery genre. As the characters in *Time* began to move [18] it became possible for people knowledgable in specific fields (including geology, botany, zoology,

astronomy, and linguistics) to lend their expertise to help solve the mysteries. Those with computer skills created *Time* viewers, animated GIFs, and other resources to make it easier to review the story so far. Literary analysis was used [19] to predict how long *Time* would last. Most of this was shared only through the OTT, though some was also available elsewhere (such as the explain xkcd wiki [6],[10]).

As in many fan subcultures, the OTT originated inside jokes, *Time*-related jargon, "filk" songs, poetry, fan art [16], and so on. Though not directly required for appreciation of *Time*, this creative work became part of an increasingly diverse and complex OTT culture. Through the provision of tangible directly-related contributions such as geology expertise, or through artistic expression, many OTT members were able to contribute something personal, specific, and objectively useful.

All evolving communities specialise; perhaps most relevant to the present discussion is the OTT's self-moderation. Though the **xkcd** fora are moderated, little or no active moderation was needed in the *Time* thread: moderators read the thread but did not comment or intervene. This is particularly remarkable given the *Time* thread's volume — with 50748 posts out of a fora total of 120945, the OTT comprised 42% of all **xkcd** fora activity [23] during the 124-day period of *Time*, and was responsible for 65% of file attachments (mostly images) during the same period. [24]

Self-moderation was provided by OTT members making explicit advisory statements[20], and by a culture of universal tolerance. For an example of the latter, when a member would ask if his/her contributions were appreciated, the reply was almost always to the effect that "if people like your posts they probably won't say anything, and if people do not like your posts they probably won't say anything". This was not the result of general apathy, but from a collective shared philosophy of aesthetic relativism, and conscious effort towards universal acceptance supported by a *"ha-ha-only-serious"* aversion to consensus.

The Transitions of the Fifth Month

Most forum threads concerning individual **xkcd** comics last only a day or two past the publication of the comic itself. Such was not the case with the OTT. Though *Time* left a few unanswered questions after its frames had all been revealed, the OTT's original purpose was clearly almost moot; but there was by that time a very strong sense of affinity and desire for continuation; the OTT was now a significant social outlet for many core members.

The OTT gave much time and attention to anticipating and preparing for this transition. As expected, OTT membership and message-posting activity declined dramatically [23]. If smaller community size is a contributor to stability (as suggested by "Dunbar's number" [1]), this may represent a transition towards greater long-term stability for the OTT; there was also some membership turnover. New members, including this author, became active and cited the now-slower rate as a reason for prior non-participation. Others joined simply because they had just discovered the OTT.

It was decided, more or less by default and without debate, that the OTT would continue and expand its creative (art / music / fanfiction) activities. Mashups of *Time* with other **xkcd** comics and works by other artists, called "OTTifications", became popular [17], and other creative works included **Sandcastle Builder**, a videogame based on **Cookie Clicker** that soon had a fanbase far outnumbering the OTT[25],[30]. Several *Time*-like sequels, with a similar slow time-released frame-by-frame format, were created and one is currently ongoing.

At this writing, the OTT has survived an additional 17 months, including the arguably far tougher *Gottesurteil* of Mod Madness 2014. The OTT's survival through the three transitive forces (end of *Time*, diminution and turnover of membership, and realignment of its "mission and purpose") of the 5th month demonstrates that the OTT had matured into a self-sufficient sustainable community prior to that time. The period of greatest interest, therefore, is that discussed in section I.

Speculation

This paper is full of questions, and has no conclusion. As I mentioned in the introduction, a lot of potential hypotheses are suggested by the details of the OTT's evolution and "transitions" as I have described them. Some will be easy to refute while others will remain mysterious for many years.

There are other Internet communities that have had an experience of long-term viability and harmony, of a quality similar to that of the OTT. One [4] is even familiar to an OTT member [28]. One could form hypotheses based on which of the OTT's "transitions" have (or do not have) analogues in the formative histories of these other communities.

Examples may be rare and few. I will simply say that any amount of learning we can derive from the experiences of these communities could lead to benefits for Humanity that far outweigh the research costs.

Appendix: Additional Notes

These notes were added by the Author after the paper's initial submission.

The OTT as an "Accidental Outlaw" Thread

During "Mod Madness 2015" some of the moderators of the **xkcd** fora discussed their perspective on the OTT. It is now clear that, due to the extremely high volume of the OTT, moderators were unable to keep up with it, and had to "skim" just for the more egregious violations (spam, racist or similarly offensive speech, etc.). They did not do much to try to regulate the OTT's scope of discussion topics to things that are tangibly, provably related to *Time* (a "keep on topic" policy that is one of the forum rules and usually enforced). As a result,

the OTT drifted further and further from the narrowly-defined standard[31] that Individual Comic threads are normally held to. After some time, the moderators realised there was a significant, defined, and closely-aligned community within that thread and it was too late to try to break the discussion up into separate threads [31]. The OTT was allowed to continue "breaking the rules" of the **xkcd** fora in this regard. This is significant both as a possible formative influence, and a possible endorsement of "hands-off" moderation doctrine for formation of sustainable online communities.

OTT Mirrors and Backups

For section I: Another service provided by the computer specialists was to "mirror" the OTT's posts, thereby insuring against failure or loss of the **xkcd** fora website itself. This was deemed necessary because of occasional **xkcd** server failures, and an unpleasant and frightening experience during "Mod Madness 2014".

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Past Development and Future Generation of Sustainability within Online Communities

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Abstract

In this three-part paper, we present a featured sustainable online community and its development, investigate and analyze traits which make it particularly sustainable, and finally recommend strategies for generating future sustainable online communities based upon the successes identified in Parts I and II.

I: Expositon

In this section we seek to describe the conditions and character of a featured sustainable online community in order to present it as an example to assist development of future communities.

Featured Community: The OTT

The featured community of this paper which has exhibited unexpected sustainability developed within a discussion thread for an installment of a webcomic. The comic itself is installment #1190 of *xkcd*, called "Time," created and published by Randall Munroe. Shortly after the appearance of this comic, the discussion thread was created within the *xkcd* forum system under the topic heading *1190: "Time"*.

It is important to our analysis to distinguish the community itself from its platform(s). Although the majority of community development and activity occurs within the primary discussion thread, member interaction and content creation has expanded to other secondary locations over time. Therefore for our purposes we shall identify the community which has as its base the discussion thread *1190: "Time"* by the name most commonly used by its members: "the OTT." That name is derived from the primary platform as well (an abbreviation of the phrase "The One True Thread") but has come to apply to members ("OTTers") and broader aspects of the community ("OTTish," "OTTification") and is therefore more community-specific than platform-specific.

"Time," the comic that fostered the OTT's development, began to be published on the 25th of March, 2013. It was peculiar among comic installments in that publication continued in a series of over three thousand separate frames

that appeared on the *xkcd* page for "Time" over a span of approximately four months. Frames were initially published every half-hour for the first five days, and then transitioned to being published every hour for the remainder of the comic.

The OTT itself has outlasted this initial span considerably. Nearly three years after initial completion of the comic artwork, the community is still active. It includes a variety of usergenerated content, including theoretical discussion, creative endeavors, and general conversation. The members of the community itself are fairly diverse, with a range of ages and geographical locations. Notably, the OTT also has very little conflict between members.

The Environment of the OTT

One observation of this sustainable community's creation to be noted is that initial participants in the discussion thread, who may be regarded as the founding members of the OTT, were selected for or filtered by environmental circumstances. In this case we consider the primary platform, the discussion thread in the webcomic forum system, to be analogous to a geographical environment. Because development occurred in this "location," the seeder population of the OTT shared several common traits (based on observation). The people utilizing the discussion thread required internet access to reach the platform itself. Anyone lacking such access would not discover the community. Literacy in English was also a prerequisite for making sense of the ongoing conversation. Because the home webcomic, *xkcd*, has a history of "hard science"-based humor, a comprehension of or proclivity for such sciences functioned as another environmental filter for the OTT. Another feature of xkcd comics, hidden puzzles within the installments, likely filtered the community's founding population for the inclination to analyze or figure out such puzzles.

Of course, these environmental circumstances are identical for hundreds of threads within the *xkcd* forum system. Only the discussion thread of *1190: "Time"* has so far resulted in the development of a particularly sustainable community within this environment. It exhibits exceptional traits that other discussion threads lack. The discussion itself is particularly peaceful, with members of the community managing to dampen "flame wars" or confrontational encounters within the thread quickly. Indeed, having a community centered around the thread means that the discussion there is curated and moderated by the community itself, rather than by forum moderators who generally serve those functions for other threads on the *xkcd* discussion boards.

In terms of the broader discussion board system, the OTT is also unusual in that it is a singlelocation community, centered around one thread, when in most of the *xkcd* forums the communities that make use of the discussion threads can span dozens of threads and even multiple subforums. It stands in contrast as a concentrated example of community.

Within its own subforum, Individual Comic Threads (ICT), the discussion thread is highly unusual. Although there have been hundreds of comic installment threads made for *xkcd*, only the discussion thread for "Time" has remained

consistently active for three years running while the majority of comic discussion threads in ICT become inactive over the span of just a few weeks (or even mere days in some cases). People who frequent various parts of the xkcd forums tend to regard ICT as what they call a "mayfly" forum, where those who come to discuss a particular comic drop out of the conversation quickly and do not continue as frequent visitors to the forums. Therefore the development of a community within this particular forum location was highly unusual and unanticipated by other forum frequenters, including the moderators.

Beyond the "geographical environment" of the platform existed an unusual "temporal environment" created by the drawn-out publication of the comic being discussed. "Time" is to date the longest-running *xkcd* comic. While Munroe employed a similar serial publication for comic #1446, "Landing," the comic itself spanned only a day and its discussion thread in ICT soon became inactive after completion without having developed a community.

Users of the discussion thread that became the OTT were subject to multiple temporal environment filters in a way other forum users were not. Keeping up with the discussion concerning "Time" required frequent visits to the thread over a matter of months as individual frames were published. In addition, the duration of frame publication could not be "cheated." Other large-scale *xkcd* comics (like "Click and Drag) could in essence be discovered and solved by just a few members of the forum community and spread among hundreds or thousands of viewers who would not have to spend time on the discovery effort. This was impossible with the "Time" comic and its slow release. For four months, the users of the discussion thread were required to experience and speculate collaboratively at a relatively slow pace.

The Development of Community

The environment as described above, both geographical and temporal, gave rise to activities within the discussion thread that were essentially communal and required the people there to work together. As "Time" continued to be published hour after hour, with no pauses, it was impossible for any single individual to experience it live in its entirety. The *xkcd* website did not save past frames of the comic, displaying only the current frame of the hour. To keep up, a catalogue of past frames was necessary, and for many the discussion thread for "Time" served as this catalogue. Every hour a member would post the new image into the thread, and so a reliance on other forum readers developed between the people discussing this particular comic. Different people would chronicle the comic at different times, and even after programs were created by forum users to harvest the hourly images, this collaborative watching of "Time" was necessary to pick up peculiarities, such as errors in the comic images that were later corrected by Munroe after publication, or an anomalous sequence of five frames that took place in mere minutes rather than on the hourly drumbeat.

As the discussion thread and various collaborations continued, the users of the thread exhibited "community consciousness," an awareness of the collective that expanded beyond the scope of what was typical for an ICT thread. In order

to debate theories regarding "Time," individuals needed to read and track what had already been discussed by others, and pay attention to the contributions of those other people. Keeping up with the various discussions also required thoughtfulness in post composition as opposed to more self-contained "one and done" posts on other comic threads. In the "Time" thread, there also developed efforts to keep the discussion flowing and provide works of interest in the span between frames, and so the users themselves would create content to entertain others in lieu of new *xkcd* material. As these works by other readers of the thread were posted, they often generated praise from other people waiting on comic frames, and so the community began to acknowledge individuals not only for effort relating to the source comic but for efforts of the individuals' own creation.

The emerging community and the recognition of individuals or regulars to the thread as days, weeks, and months passed meant a separation became more evident between those who had been in the community for some time and newcomers entering the discussion space. This division persists to this day, but the people of the OTT have developed customs that allow newcomers to engage with the established community more easily.

Even years past the end of "Time," individuals new to the forum enter the thread and post in the discussion, but face an inherent obstacle of the *xkcd* forum system: the first five posts of any user have to be reviewed by a moderator before being published. By the time a moderator reviews new-user posts the conversation of discussion threads have often moved on. Within the OTT, where the activity means that present discussion will indeed usually skip over moderatorapproved posts, community members will "bump" those skipped posts into the current conversation for other people who missed them. This serves as both introduction of the newcomer by an established member to other established members as well as acknowledgement that this new person has contributed material to the thread and that it is worth reading.

The community consciousness of the OTT is not only limited to the current discussion on the latest page of the thread. An important feature of the discussion board system used for *xkcd* threads is the ability to easily go back and read past posts and conversation on the platform. Therefore any user interested in the history of the thread (and its community) may at any point explore it. It's possible to not only search for particular posts or conversations but also to return to the very beginning of the thread *1190: "Time"* and read it all.

In fact, members of the OTT acknowledge and even encourage this behavior, which they call "blitzing." The most basic benefit of reading the discussion thread from start to present is to be rewarded with all of the individual frames of the comic under discussion, "Time," complete with analysis by others as they are revealed. However, blitzing also allows users to experience the formation of the community of the OTT personally if they missed it in real-time. It serves as a means of accessing community history for anyone curious. Members of the community will often offer assistance or motivation or even tools for those blitzing.

The nature of the platform expands community activities beyond the binary

reading of past pages versus current-page discussion as well. Those blitzing the thread's history may contribute to the present conversation at any time with a post, essentially speaking to the present of the community while reading its past. Forum-wide features also allow the reverse to occur: user profile-based information changes globally throughout all pages of all discussion threads. A community member reading only the present conversation can therefore reach out to people reading pages where they have participated in the past by changing this profile data, and the OTT has numerous examples of this type of conversation between members. This type of intercommunity conversation over different timespans allows for multiple avenues into the whole known as the OTT, and for many different methods of content consumption by community members.

Community Stressors

Once the OTT developed as a community in its particular environment, this community faced a number of stressors that shaped its development over time. The reactions of the community to these stressful situations or events shifted the culture of the OTT beyond the typical ebb and flow of discussion inspired by the comic and environmental factors.

The first and arguably most impactful stressor in the history of the community occurred very soon after its formation, on the 28th of March, when an event typically known as "Mod Madness" went into effect across all of the *xkcd* forums. During this event, the forum moderators are allowed to use a typical forum tool, word filtering, for their own amusement in what is generally regarded as a holiday or reward for their moderating efforts. The usual employment of word filtering is to change an offensive word, wherever it appears, to a less-offensive substitute. This filter applies globally throughout the entire forum system. In the xkcd Mod Madness, moderators may use the filtering to change any word of their choosing into something different.

This free-for-all of forum filters naturally results in chaos by making the main objective of the discussion board, discussion, difficult or even impossible as the filters affect all communication. All of the users of the platform are subject to the enforced strangeness. Three days into the release of the "Time" comic, the new OTT community was faced with this massive obstruction to communication. Many people abandoned attempts to read the discussion thread, and left either for the duration of the Mod Madness or for good. However, the hourly releases of comic frames meant a large number of people were determined to remain and continue discussion in spite of the odd communication issues. As more and more word filters came into effect, users had to negotiate the obstacles, either by learning and adapting to the new "language" or by applying changes to their own typical diction to circumvent the filtering.

The Mod Madness was particularly obstructive to the conversation about "Time" because the global filters also applied to words within URLs, and the frames of the comic were posted to the thread via URL. When a word filter changed a word in an image URL on the forums, the URL would break and the image would subsequently become unviewable. Since all frames of "Time"

included the word "time" within the URL, when moderators filtered that word every image of the comic so far essentially disappeared from the thread. No longer could users of the discussion forum see the entire comic, and had to rely on outside resources that were not forum-based in order to view the subject of their conversations.

This complication led to Munroe requesting a filter exemption for the "Time" discussion thread in order to fix the image-viewing issue approximately eleven hours after the start of Mod Madness. Word filters no longer applied to the thread in original posts, allowing the frames to be posted clearly once more, though quoted content continued to be altered for a further three and a half days until the end of Mod Madness.

Although no single stressor has since matched the impact of the 2013 Mod Madness to the OTT, the community has undergone stressful transitions which elicited changes in content consumption or creation habits as well as general community participation. During the course of the "Time" comic's publication, surges of posting activity would occur during times of particular interest in the course of the comic's story. The level of engagement by community members would rise rapidly for anywhere from a few hours to a few days depending upon exciting events in the comic's plot. As frames became less interesting in the story, engagement would similarly wane, sometimes for days at a time. Consequently, the members of the OTT would have to content with various degrees of activity within their community that affected posting speed and coherency of conversation.

The most significant transition the community endured occurred when "Time" ceased publication in July 2013. Many people stopped participating in the discussion at that junction. From then on, traffic to the thread and therefore to the community was no longer based on the content that originally inspired it. The OTT was required to continue without the same outside stimulus which had been driving it for the first four months: the community which persisted became self-sustaining instead.

In 2014, one year after the beginning of "Time," the OTT encountered its second Mod Madness. The word filters caused little change as the thread itself was still exempted, however an event that occurred during the Mod Madness was particularly impactful in terms of the future of the community and how members regarded its platform. As part of the general chaos-causing, a moderator "locked" the discussion thread, preventing any further participation.

The blockade from participation in the community caused distress to community members participating live at the time. The closure had come with no warning and no explanation, as well as no announcement that the thread would ever be unlocked. Although the thread was unlocked four hours later, after a relatively short span of time, the experience was regarded as fairly traumatic by users of the OTT, particularly those who faced it in real time rather than reading about it later.

To that point in the community's history, the relationship between the OTT members and the *xkcd* forum moderators had been, if not particularly warm since Mod Madness 2013, then at least ambivalent. "Live and let live" seemed

to suit their interactions. Post-locking of the thread, however, an active distrust of the forum-wide moderators was fostered in the community. The members of the OTT were given a stark illustration that the platform on which all of their interaction occurred was not their own, and circumstances could easily change without their consultation or consent.

The primary platform of the community also sometimes became unavailable due to circumstances beyond any user's control. Server issues would make the *xkcd* forums inaccessible for significant spans of time, from hours to days. Members of the OTT would be unable to access thread content or continue the conversation. As a result, they began to develop alternate channels of communication beyond the single thread as well as backups of thread history, to the point of making mirrors or replicas of the original discussion thread that would be accessible should the platform disappear for any reason.

Community Creations

In order to cope with stressors or transitions or simply the everyday monotony of having little to discuss as the "Time" plot dragged, members of the OTT would often create tools or content which enhanced the community itself. This included the backups and alternative discussion methods mentioned above as well as a number of other creations.

A very early tool developed by the OTT community and used to assist in understanding of both the comic "Time" and the discussion thread was a wiki on the Wikia website. This supplemental resource was able to host information that could be more rapidly accessed as opposed to searching or perusing the primary platform. The OTT's wiki, still in use today, features a welcoming front page that encourages exploration of both the wiki itself and "Time" as a comic, though as time has passed and the original comic ended the wiki has increasingly centered more on the OTT as a community or creations by members of the community than the seeder content.

Many creations within the OTT, particularly in the four months of the publication of "Time," were engineered to further understand the comic itself and assist other community members in their understanding. Because the plot was ongoing, and there were few expositional clues supplied by Munroe for most of Time, members used their talents to attempt to explain or guess at what they were seeing. Different sciences were employed by those familiar to solve certain aspects of the comic, from using linguistics to attempt to decipher the created language used by some characters, to using botanical knowledge to guess at the geographical location of the story, to eventually using astronomy to conclude that the story was taking place several millennia in the future.

Graphical knowledge was also used by members of the OTT to analyze the comic's content. Many users created short animations showing the changes between frames in order to better understand the story. Portions of frames were enlarged and deciphered, and the sea level of the early comic was monitored based on the volume of pixels changed from white to black. Even literary analysis was employed by community members to extrapolate the comic's plot

and recognize both foreshadowing and climaxes in the story of "Time."

One of the more flexible and immediately recognizable creations of the community is its shared slang or language. Known colloquially as "OTTish," it consists of a high number of invented or modified words, jargon for comic-related material, and amusing substitutions. Over the course of the community's history terminology has been developed for unique thread-reading strategies as well as common vocabulary. Words like blitzing, sigcouragement, and pagepope are based in thread perusal, while others like Cuegan, Beanish, and raptorcat refer to aspects of "Time." Still others are silly word-swaps, like referring to any kind of animal as a molpy and the span of an hour being regarded as a newpix, in honor of the hourly pace of the comic.

In addition to unique and unusual words, the online community of the OTT exhibits a fondness for common phrases with memetic qualities, inspired by reoccurrence in the comic or the history of the discussion thread. Call-and-response bits have developed from lines of dialogue in the original comic ("The river is small!" "The sea is big!"). Even frequently asked questions by newcomers enter everyday usage ("Has anybody noticed the JavaScript?").

The shared language within the OTT allows members of the community to identify each other and share their enjoyment of the community beyond the thread itself, from other platforms like Facebook to one-on-one conversation as in email or private messages, or even within other discussion threads or subforums in the *xkcd* forum system.

Beyond keeping the community tight outside its bounds, the community language encourages members within it. Any member can contribute to the culture and have an invented word or swap picked up by the community at large, and when a new word or phrase is incorporated or riffed on within the thread the member's own creativity is acknowledged. This extends beyond language as well to other creations like thread customs, graphics, or song lyrics, to the point where the OTT sustains itself on its own creations.

II: Explication

In this section we engage in detailed analysis of the traits of the featured community, attempting to determine why it is particularly sustainable and how it accomplishes this sustainability, in order to more fully replicate its successes in future online community building efforts.

Content

The OTT, as a self-forming community rather than one inspired by a particular creator or agency, was driven to formation not by instigation beyond the community but rather the interests of the people who would become the community. This analysis of its formation will focus on aspects of the whole which might be replicable in future communities.

The initial stimulus for people participating in the thread that would become the OTT was material supplied by a creator external to the platform. Though the *xkcd* discussion forums were created primarily for people to come together and talk about the comics, the creator of *xkcd*, Randall Munroe, no longer participates in forum discussions. As such, he may be regarded as an external force and not a member of the online community for our purposes.

This condition of having external created content driving initial visits is therefore possible to be duplicated in a future sustainable online community: it does not necessarily require the existence of a community in order to create one anew. Unique content that is sufficient to inspire and hold interest is usable in and of itself. However, the fact that the OTT developed within an already existing forum system suggests some prerequisites, including a platform that may be easily utilized for discussions and a stable backer organization from which potential membership for the sustainable community may be drawn.

The spark of the OTT rested in the interesting content that drew people to speculate, and speculate openly, with other people. What is this? What is going on? Material that a user may solve completely on his/her own will likely be insufficient for sustainable community creation, as when the questions are answered the interest ceases. Likewise material that a user is disinclined to discuss with others, such as topics of a more sensitive nature, or that may be contentious or political, would be unsuitable for seeder content as potential conversation would be muted or inflamed rather than discussive.

The content of "Time" succeeded in engendering interest in a number of people without being immediately solvable, contentious, or stifling. It provided a plot or throughline for users to follow, and its release was limited by the drawn-out publication, encouraging people to remain and engage with the content and with others interested in the content for a longer span than most other creations by that particular webcomic maker.

Once the interest in the external content had been developed, the community of the OTT began manufacturing its own content (community members making their own works and supplying them to the community). This user-generated content was almost entirely created to facilitate understanding of the seeder content. Examples include tools like the wiki, or the viewers and programs which automatically collected new frames of "Time." Although these were directly inspired by the external creator's content, the members of the community made these works themselves, and usually did so in order to share understanding with others in the OTT.

The practice of users creating content would eventually shift from facilitation of the given material to enhancement of the given material, and then to the creation of new material for the community only inspired by the given material. An example of this path in the OTT: 1) Several frames are enlarged and animated to better show others the large cat appearing in the comic. 2) An explanation is given of this creature's origins, and a name created based on a coincidental line of dialogue. 3) Artwork and stories are shared with the thread about the past and future of the cat beyond what could have been derived directly from the original material.

Transitioning to this third step in user content-creation was essential for the survival of the OTT as a community once the original source material had concluded publication. Visits to the discussion thread continued based on the creations of community members rather than the seeder content. These user creations could be anything from direct sequels and prequels to the storyline of the "Time" comic to amiable conversations made by friendly and familiar thread participants that were not to be found anywhere else online.

Discussion Stamina

Beyond the content, both external and user-generated, of the OTT community, we must consider factors that contributed to its sustainable culture and traditions. As noted in Part I, the temporal environment that created the OTT was unique among all other threads in its wider ecosystem, the general *xkcd* forums. Members of the community to the present day were inspired by the steady and measured release of content throughout the "Time" comic's run.

As the content held user interest, it appears that a certain amount of stamina developed within the community membership. The title text of the comic itself, the instruction "Wait for it," was taken to heart by many people anticipating the next frame. In effect, a cautioned patience was instituted community-wide. Angst within the thread? Wait for it to pass. Boredom with the current storyline? Wait for it to improve. This culture of patience inspired a high degree of tolerance within its membership. There was no point in blowing up about any one nitpick as a member would likely be back discussing other topics on the thread for weeks and even months in the future as "Time" progressed. Frequent users of the OTT show a general tolerance for topics of conversation, community mores and traditions, and member eccentricities.

As well as tolerance for the annoying and unusual, the drawn-out release of the comic has led to an inclination to analyze ever deeper the content supplied. Users have spent a good deal of effort and thought, for instance, on the created language within the comic, called "Beanish" by those in the OTT. Initial analysis focused on identification of characters of the writing system, which spread to recognition of recurring words and sentence structure, then hypothesis on what such words could mean or represent, codification of the language in already present character sets, a possible pronunciation method for all dialogue in the comic, and discussion on whether there is enough of a corpus to decipher the language at all. Even to the present day new conversations on the language continue in the OTT.

This depth of analysis is not unique to one subject, but occurs with many topics included in "Time," tangentially related to "Time," and often not connected to the comic at all. In the early days of discussion there was a drawn-out conversation about the use of pronouns which was unrelated to the continuing story and was purely a topic of interest within the community of the OTT itself. An ability to engage at length on a wide variety of subjects seems important to sustainable community conversation and discussion stamina of the OTT.

In addition to discussion on the familiar, a driving factor behind present-day

conversation is the content supplied purely by participants. As members of the community engage and create, a cycle is perpetuated where others are inspired by the work to create on their own or motivated to acknowledge and praise (and thus converse with) the content creators. Conversation is thus reinvigorated on a perpetual basis by the introduction of the new, whether it be a new theory or idea or a work of art.

Community Consciousness

Users within the OTT show a high degree of awareness of the community, in terms of both the well-being of individuals that make up the community as well as community well-being at large. A frequently used OTTish word for "pleasant" is molpish, and throughout the thread's history there has been an inclination and will among users to keep the OTT molpish indeed.

Awareness and conscientiousness when it comes to the communal setting inspire participants to interact in ways that make the community a positive and healthy place to browse online. Several weeks into the discussion on "Time," it was remarked upon by members of the community that the thread itself was exceptional in its peacefulness as compared to other ICT discussions, and the act of noting this appears to have engendered pride within the community.

This pride in peacefulness has rippled outward from its starting point within the OTT. Desire to continue this molpish reputation applies to not only current participants but extends to consideration of future readers. Members of the community ask themselves, knowing that people start at the beginning of the thread and read it all, "What will the blitzers think when they come to this discussion?" The OTT, as a result of this community consciousness, has essentially become a self-moderating community.

Squabbles among participants are rued and viewed as somewhat shameful to the OTT, and members will generally respond to such with platitudes, advice, and even creative works designed to soothe and stop conflict. Past attempts by individuals which tried to change the browsing behavior of other people in the community have resulted in the statement on the supplemental wiki that "there are many ways to Time." Posts written intelligibly for fun are sometimes called out for "Blitzus Annoyus," or being potentially annoying to future readers of the thread.

Overall the conscientious nature of the OTT has contributed to its sustainability so far by encouraging awareness beyond the needs of the individual, and the collective attempt to foster pleasantness has kept the community an internet destination worthy of repeated visits.

The community itself has transitioned from its origins as consumers of supplied content to suppliers of assistance to others. Essentially the OTT has become an example of a community serving the community. Among the typical discussion of topics the conversation space among familiar individuals can serve as a support system or a sounding board for members in need of bolstering or advice. The community makes an effort to create and sustain its ongoing wellbeing with new content, including creative works. Throughout these other

efforts the OTT also continues to exist as a digital meeting space, a place of gathering for people. An online community, in other terms.

Independence

A particular unusuality in the discussion thread around which the OTT formed was the relative lack of oversight by *xkcd* forum moderators. Indications in the past history of the thread point to this being a result dictated by circumstance rather than choice. The continually growing volume of the "Time" thread prevented most readers from staying live in present discussion, including moderators of the Individual Comic Thread forum. As a result the current topics of conversation were not steered or censured outright at any point by outside authority.

The lack of declared topic steering by a source of oversight led to members of the community setting their own, unofficial guidelines: conversational mores and traditions taken up by a majority of OTT members. Users themselves had to negotiate their activity on topics, often developing a way to discuss various topics' relatedness to the original stimulus, the "Time" comic. This insistence of tying many different types and subjects of conversation back to the thread's original purpose is the cause of a common OTTish saying: "It's all related." This inclusive perspective prevented the strict censure common to other ICT discussion threads, which are frequently redirected by moderators in order to keep the flow of conversation "ontopic." OTT conversational style is far more user- and community- driven, and subjects of discussion vary widely. The effort to relate any subject back to the topic is an indication of keeping the center of the community intact while still allowing for innovation and exploration of new avenues.

Over three years after initial creation of the thread, the forum moderators native to the wider system of forums employ a hands-off approach to the OTT and its conversation, regarding the "Time" thread as a peculiar exception and an anomaly within the discussion website. Moderators have opined that such a phenomenon will probably never occur within the forums again, as now the situation is anticipated and future threads that threaten to stray off-topic may be headed off early instead of developing into free-rein, self-contained communities of their own.

User-Friendliness

The OTT as a community features a number of memetic sayings repeated throughout the thread which are meant to encourage community members and foster the creation of new posts and other interesting works within the thread. These include "It's all related," "There are many ways to Time," and the oft-repeated "Redundancy is molpish."

Molpish, as mentioned above, is a community-grown term which indicates the subject of the description is pleasant or desirable. The value and benefits of redundancy to the community are held in high regard by members of the

OTT. Originally, the saying "Redundancy is molpish" was developed to head off complaints that something was overdone, overused, or repetitive within the discussion thread. Such complaints served to effectively prevent users from contributing to the community out of wariness that what they might contribute would have been said before and might bore those community members who had encountered it previously. The soothing of such complaints allows for more user contribution overall, and the recognition of worthiness of contributions even though they might bear similarity to some topic previously addressed.

"Redundancy" within the community of the OTT can range from outright duplication to derivative work to even competing standards on the same subject. Platform-related redundancy, especially after the locking of the OTT in 2014, is one example where duplicative redundancy is highly desired. The primary mirror of the discussion thread, created by user balthasar_s, replicates the content and experience of the original "geographical" location as nearly as possible, to the point where the mirror is often preferred by those blitzing the community history due to preservation of content such as external-linked images that have broken during the years that the discussion thread has been in use.

Derivative works, or user-created content inspired by original sources like the "Time" comic or other pieces of popular culture, are redundant by nature in that they riff upon shared topics of inspiration. Fan theories about the backstory behind the plot of the comic or Munroe's motivations often overlap, but are not rejected for that particular redundancy. Similarly, the tradition of "filking" or "ottifying" songs – modifying the lyrics to fit the community or the comic – has led to different users supplying their own modifications of the same source material. But the admonition "it's been done" is rarely seen within the community, so such unintentional replication is regarded as a feature, not a bug.

The multiplicity of standards within the OTT is an example of the idioms "Redundancy is molpish" and "There are many ways to Time" dovetailing to supplement user experience. Individuals are able to employ their own strategies for interacting with the community, including blitzing, keeping current with conversation, or a mixture of both. The many ways of engagement and even the wide variety of language terms used are welcomed, to the point where attempting to establish any "correct method" of communication or analysis is seen as silly and even futile. Efforts to mentioning a standard of any kind are posted with the fictitious superstitious chant "Ni ni ni chupacabra ping pong ball" or some variation, indicating this laissez-faire attitude.

The overall promotion of redundancy in this particular community has allowed for uncondemned innovation and refinement over the course of its history. The community is gradually bettered by the addition of new features, the revisiting of past content, and the effort to find new ways of explaining old information. Repeated engagement strengthens the bonds within the community itself.

Additional to the promotion of innovation within existing community commonalities is a welcoming of newcomers who have not experienced the OTT before. Anyone able to pass the initial environmental filters noted in the first part of this paper has the opportunity to join the community and be welcomed and acknowledged by those already present. OTT traditions emphasize new-

comers in order to compensate for the obstacles present in the forum platform, including the mandatory five-post moderation before anyone new to the system can post freely. Recognition and acknowledgement of newcomers indicates a certain assumption of value of the individual on the part of the community, making them more likely to continue participatory efforts. Community traditions tailored exclusively to new visitors, such as the awarding of a title to anyone participating in discussion for the first time, illustrates this assumption of worth.

The OTT remains user-friendly long after users have been introduced to the community culture because the discussion thread platform serves as a useful community medium. Perpetual availability of all past discussion allows any member to easily catch up on any missed material or reflect upon past conversation. The history of the society is available beyond the context in which it developed. The availability is not hindered by gatekeepers or its medium but is open and public to anyone wishing to read it, even people who have not signed up to join the *xkcd* forum system as members.

In essence, the OTT features a "revisitable memory" which continues to connect the past to the present. The feedback system between what has come before and live participation freely continues without impediment, fostering growth instead of stagnation.

Flexibility

The traits so far explored in this section feed into and foster a culture of flexibility within this particular online community that makes it particularly sustainable. The combinations of independence and conscientiousness, collaboration and individual recognition, soothing and encouragement, work together to make up a whole that is overall an adjustable entity, able to respond to challenges and stressors that might fracture and immobilize lesser communities.

The history of game-changing stressors acting upon the OTT (Mod Madness 2013, the end of the comic itself) have increased the community tolerance to change and effectively immunized the body against future stressors. The locking of the thread one year in, though traumatic to many users, was not able to destroy the collective which had to that point been constructed. Members of the community have sought and continue to seek creative solutions to difficulties in communication, and creative exploration grants the people participating the ability to overcome challenges.

As the OTT developed over weeks, months, and years, the community itself grew and began to exist beyond the physical forum space or the original platform from which it stemmed, becoming sustainable and accessible in different ways to interested users. Supplemental and substitutory meeting spaces have emerged, from an email list to a Facebook group, from the development of mirrors to the wiki and its contained information.

Analyzing one alternative channel for the community such as the wiki allows us to recognize the benefits of platform redundancy and innovation. The wiki itself serves as an external source of information to the community that is

accessed differently to the history of the living thread and is browsed almost exclusively by subject in contrast to the temporal nature of the discussion thread. Users can employ it as a series of shortcuts to crucial information as well as a shell for cataloguing and encoding information that does not appear in the primary platform, such as collecting user-posted content or keeping track of scenes within the comic.

As the wiki exists now, its main focus is on the community which utilizes it, and remaining easily understood by interested OTT users is essential. Several pages of the wiki feature discussion on how best to present the information on the page to keep it accessible and readable for those who will visit in the future.

A secondary focus of the wiki is on content, both original to the "Time" comic and usermade. Whereas aggregation of material by topic is difficult on the discussion thread (though not impossible), the wiki platform is highly suitable for such collections. Community members, through the wiki, can explore the entire body of works created by other community members within the discussion thread as a unit, from the lists of user-made poetry to graphical tables showing off user modifications of individual comic frames.

There is also a high degree of interconnectivity between the wiki and the primary platform on the forum. Community members often take it upon themselves to make use of global profile information, particularly post signatures, in order to supply links in-thread to the wiki. The high prevalence of this as the OTT developed means that a majority of its pages include one or more direct links to the wiki via signature deployment. Conversely, most wiki pages include citations and hyperlinks back to the community of the discussion thread for reference. The experience for users who visit both platforms instead of attempting a singular browsing effort is made fuller and is entirely custom-created based on how the particular user decides to consume information, and is therefore highly flexible.

Flexibility in platform is echoed by flexible traditions within the community. The common knowledge that any member of the OTT can contribute traditions or language to the group for others to use in turn encourages participation, with the reward of seeing a personal creation spread among the community itself. Creativity also is inspired by this trait, and continued creative production by many different people forms a more sustainable online community overall.

III: Expansion

In this section we seek to focus upon how the conclusions drawn in the Explication section as to the featured community's creation and maintenance of sustainability may be further applied to the generation of new sustainable online communities, as well as brainstorming new strategies for sustainability and how they might benefit such development.

Prerequisites

To begin the development of a sustainable community there are a number of steps we suggest have to be taken before the community can function as a contained unit. The base, or first step toward establishing a community is having a platform, the "geographical environment" to be populated by the group. The software tools which will be later used by participants have to be created.

Once the platform is created, there then needs to be an introduction of people to the platform (or platforms). This occurred organically and spontaneously in the case of the OTT but inorganic introduction or recruitment of people will still allow for initial exposure to the environment. Beyond mere exposure, an attraction of user interest is required to keep people engaged past the point of required introduction, probably through some initial supplied content.

After the introduction and beginning engagement of users, community maintenance will be required. Ideally members will eventually undertake such effort on their own, making the community itself sustainable, but it is probable some initial guidance will be required, some coherency that keeps the community bonded instead of fractious. As the OTT in our analysis adheres to the idea of relatedness to the core discussion of the comic, so must there be some central tenant of any newly generated online society.

As the community itself grows, a key step will be raising awareness of sustainability as a concept. Identification of sustainable practices by the members of the community will make them better able to perpetuate and recognize such efforts.

Content Creation

To attract people to the community and encourage repeated visits to the platform, strong, unique, and interesting content is necessary, and it will initially have to be supplied to the users from an external source such as those interested in generating the community. In the case of the OTT the content which held interest was the original comic "Time" and its drawn-out publication which inspired further engagement by interested parties.

Whatever content is supplied must be stable enough to serve as a core gathering purpose for the new community and be able to withstand a high degree of discussion and analysis. The inspiration of curiosity would be very beneficial and encourage community members to explore the material further. Thus we recommend that whatever content is supplied be open to a degree of interpretation and not explained extensively to the audience. Space must be left for individuals to analyze the content of their own accord.

As the community grows, a transition needs to occur from focusing on content supplied by the seeder source to content supplied by the people within the community. This shift may be promoted through the encouragement and recognition of individual efforts. A potential strategy is to implement projects which may be participated in by users to better the community as a whole. Beyond project guidance, an open request for resources to aid the current community

might replicate well the conditions seen in the OTT, with users providing tools and resources to help other people engage with the community and the existing content. Such an open request allows ample room for innovation on behalf of participants.

Once past that transition we need to address user-generated content as a phenomenon in and of itself. To ensure that the feedback of creation succors the community as opposed to only the individual, no single creator should become the primary content provider. That shift is a step backward away from sustainability, refocusing attention on one source instead of many, and should be avoided. The more community creators, the better.

Variety not only among creators but among types of produced content would also be beneficial. The featured sustainable online community exemplifies a high diversity of usergenerated content types, including code, analysis, visualizations, physical creations, artwork, literary extrapolation, programs and bots, and information repositories. Freedom to experiment with content types is essential.

In addition, censure should be avoided as much as possible. A culture of encouragement is preferable to a community where ideas are shot down by gatekeepers. To sustain the community, the platform itself must allow some space for users to socialize with one another, either within the primary conversations or as a separate subspace where people can supply each other updates on their outside lives and events. Social content is as much a valuable user creation as a tool for analyzing the supplied material, and perpetuates interest in the community.

Temporal Consideration

The OTT's unique temporal environment is likely a main feature that allowed it to selftransition into a sustainable community without assistance. As discussions and interactions within the group continued on a regular basis over a long span of time, a certain stamina developed. Any community in which sustainable aspects are desired must seek to match these conditions. Keeping people interested and participating over time keeps the community sustainable.

To facilitate conversation and encourage repeated visits, new and fresh content must be provided on a rather regular basis. At first this will need to be done with the seeder content, and once sustainable practices have been inspired within the memberbase individual user will hopefully be supplying the new and fresh content on their own.

Discussion stamina extends beyond the pattern of release to the willingness to engage repeatedly with the same people and/or topic over time. The opportunity for deep analysis of content may help stymie boredom in the population and keep interest beyond the superficial. It would be helpful to encourage not only analysis of the content but analysis of the community itself, by the community of itself. This feedback perpetuates interest in the collective and means that not just the content but also the community in and of itself becomes incentive to revisit the online platform.

A note to mention at this point is that participation stamina should not be forced. Roping community members into mandatory traditions runs the risk of self-destruction. However, optional practices and traditions which members may choose to engage in at their leisure will encourage new methods of participation. Should the community develop these practices and traditions themselves, such development should be acknowledged and encouraged.

Challenges and Restraints

The above is not to suggest that the generated community is to be left entirely to its own devices. Even the spontaneous collective of the OTT faced a number of stressors and challenges which shaped the course of its development. The aim of future community promoters or creators should be to supply some similar boundaries to focus said communities on sustainable practices in ways that are not harmful or traumatic to those participating in the societies.

Giving a community open challenges to solve on their own allows direction of effort and inspires innovation. This might present as a suggested topic of discussion or prompt for members to address, or maybe a puzzle or question to be solved. The topic or question challenges can then be tailored toward desired subjects like the idea of sustainability or whatever community aspect is in need of encouragement.

Such challenges given to the group, we suggest, are better supplied in the spirit of curiosity and not outright competitiveness. Individual efforts must be allowed to be acknowledged on their own and not in outright relation to any other efforts. Ranking of solutions by community members should be avoided. Analysis of the success of such efforts is not discouraged in general, just comparisons that could give way to enmity or animosity between different parts of the community.

The prime motivation behind provided challenges should be the encouragement of creativity and innovation and positive stimulus for the community. In terms of our example, we seek the results of Mod Madness 2013 and the locking of the OTT (innovations in language and platform creation) without the negative impact of alienating and distressing members within the community.

Any restraint to a sustainable community applied by an outside source, such as moderation, needs to be done with health of the community and its members in mind at all times. There will likely be a need to address negative behavior or trollish activity at some point, but it should be done with a light touch and minimal impact on the rest of the people involved. Open channels of communication should exist between any moderating force and the community members, and if possible members themselves should be allowed to attempt moderation insofar as it does not impede the general well-being of the community.

In addition, we advise that access to the platform must be kept available at all times, so that members may be always assured of the community's existence. If there must be a period of accessibility, users should be notified well in advance, and a backup meeting space for the community should be provided to sustain it while the essential platform is unavailable. Having an online-based community

means having a tenuous connection between participants and that society to begin with, and steps should be taken always to prevent harm to that connection.

Flexible Features

A sustainable community in practice will be able to respond to any number of scenarios on its own accord, and so it must incorporate flexibility within the user experience. A user's experience begins with the introduction to the community and platform, and so the community must be able to facilitate such introduction in multiple ways. Attrition in the existing userbase is a certainty over time and the welcoming and attraction of new people is therefore essential.

The flexibility to incorporate an influx of new perspectives and attitudes is highly desirable in a community looking to become sustainable. This ability increases the number of potential participants in the society and avoids thinning or weeding out the population too extensively. An additional bonus in newcomer welcoming tactics would be the conveying of sustainable thread and community attitudes upon arrival, to serve as guidance and inspiration for all future interactions with the community.

Flexibility in attracting the new should be reflected in flexibility accessing the old. The ability to access the past was essential for the OTT's development and will likely be very beneficial to future communities. Easy access for anyone interested in the history of the community and the ability of any user to see all past public conversations ensures that what has come before will continue to play an active role in the ongoing generation of the community.

The history or past of any created internet collective should be searchable, recallable, and in fact referenceable, so that individuals will know what part of the history is being referred to at any time. These traits allow for flexibility in conversation about what has come before and easier incorporation into the flow of present-day conversation. Additionally, the ability to access the history may allow for simple duplication by members, creating space for redundancy in terms of platform or repositories of information.

In order to link the past and the present the analysis of the featured community illustrates to us the need for some sort of global features. Linked to the profiles of individual members, these global features project both personality and information across temporal borders. They ensure a living past as opposed to one static and written in stone, a history open to change and amendment by the people participating in the current conversations.

Community Tools

Based on our analyzed example, we can make educated assumptions about what tools might be important to a sustainable online community. First, there must be a center for open and public discussion, where the majority of conversation will take place. To supplement the public activities, some sort of private communication or messaging system must be provided alongside in order for individuals to contact one another without the pressure of the conversation being

exposed to the entire community, a system that will act as a safety valve.

To guide these spaces, at least initially, and potentially for an extended period of time depending on the amount of influence desired over the direction of community discussion, there will likely have to be some moderation by an outside source. This may be varied with the understanding that the more outside intervention required to help the community, the less sustainable the community is as its own entity.

Further tools should be supplied to track and index any information that community members deem worthy of preservation. Potentially these tools should be solicited from the community itself. Sources of information that may be of particular preservation interest include all seeded content, all user-provided content, user profiles, an index of created terms and jargon, a chronicle of important past discussions within the community, a list of key debates and points of contention, and frequently asked questions. Whatever information is preserved for the community should be kept publicly accessible.

Information itself in the case of sustainable online communities is an unlimited resource that anyone can utilize. As such, we recommend that community software should be Free and Open Source in order to make use of it. For sustainability, the employment of open standards instead of unknowable "black boxes" leads to replicability and user reassurance.

Sustainable Practices

Of particular interest to us and anyone interested in generating a sustainable online community are sustainable practices within the community. Such an attitude extends the promotion of sustainability from the foundation toward future endeavors.

Community consciousness as discussed above is an attitude that spectacularly assists sustainable efforts by community members. It involves a mindfulness of both the digital environment as well as other people participating in the conversations. Mindfulness leads to consideration by individuals of what actions may benefit the environment and others, and continued consideration over the course of months or years is what promotes a sustainable community.

Another sustainable practice as evidenced by the OTT is creative redundancy. It involves figuring out ways to innovate on what already exists: to improve, modify, and enhance the community for people both within and without. The practice of taking what has been supplied and re-engineering or duplicating it for future benefit is essential to sustainability. Redundancy with a creative twist allows for different but overlapping strategies which can bolster and support one another, and variation in solutions enhances flexibility of the community in case of unanticipated stress or challenges.

Finally, awareness of sustainability as a concept and a desired approach to the future within the community is perhaps the most helpful practice of all. It is not enough to advocate the benefits of sustainability to any given community – each society must choose on its own to acknowledge the ideal and adopt it for their own use. Recognition of sustainability by community members allows

them to select courses of action to enhance it rather than subconsciously failing to address it. To foster awareness, we suggest that some open challenges to developing internet communities should feature sustainability as a topic. From there, the communities may choose to welcome and engage in sustainable practices on their own, resulting in societies able to mindfully perpetuate themselves into the future.

Part II
Speech Transcripts

International Interdisciplinary Conference

Towards a Sustainable Online Community

Thursday, 12 Feb 2015

10:45	P. Gerwinski	Sustainability and Online Communities – an Introduction
11:45	Hochschule	
	Bochum[?]	HappyHydro
12:45	H. Seymour	Sustainable communities: Online and off
13:45		*Lunch Break and Free Discussion*
15:30	L. McShane	Building a Better Forum: Encouraging Positive Interactions on the Internet
16:30	D. Snowdon	Avoidance Tactics, Human Nature, and the Final Enemy
17:30		*Coffee Break and Free Discussion*
18:00	R. Munafo **D**	Spontaneous but Long-lasting Online Communities – Case Studies
19:00		*Free Discussion*
20:00		*End of part one*

Friday, 13 Feb 2015

10:00	taixzo*	The role of tradition in a sustainable community
11:00	B. Szczepański	A Sustainable Community Should Have a Sustainable Platform.
12:00		*Solar Car*
13:00		*Lunch Break and Free Discussion*
14:30	C. Rash	Exploring the Formation of Sustainable Online Communities
15:30	E. Stenner **R**	The Human Factor in the Downfall of Communities
16:30		*Coffee Break and Free Discussion*
17:00	M. Addams	Group Therapy and Sustainable Online Communities
18:00	SilentTimer* **P**	"Wait for it."
19:00		*Free Discussion and Social Event*
20:00		*The end*

R remote speech
D discussion about an article
P by-proxy speech
* The speaker prefers to remain anonymous.
? Is it okay to publish your real name here? Please let me know.

Sustainability and Online Communities
An Introduction

Peter Gerwinski

Hochschule Bochum
Bochum University
of Applied Sciences

BO

International Interdisciplinary Conference

Towards a Sustainable
Online Community

Willkommen!

Welcome!   Welkom!   Bienvenu!

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Towards a Sustainable Online Community

Hochschule Bochum
Bochum University
of Applied Sciences

BO

International Interdisciplinary Conference

- Different fields of research
- Different methods of research
- Different styles of speeches

$\longrightarrow$ *Expect unusual presentations!*

$\longrightarrow$ *Expect unusual questions!*

$\longrightarrow$ *Expect unusual answers!*

... and don't forget: ***Science can be fun!***

THIS IS AN INTERDISCIPLINARY PROGRAM, IN WHICH PHYSICS STUDENTS TRY TO HIT PSYCHOLOGY STUDENTS WITH PENDULUMS.

PROMISING!

AAAAAAA!

MY PROFESSORS HAD AN ONGOING COMPETITION TO GET THE WEIRDEST THING TAKEN SERIOUSLY UNDER THE LABEL "INTERDISCIPLINARY PROGRAM."

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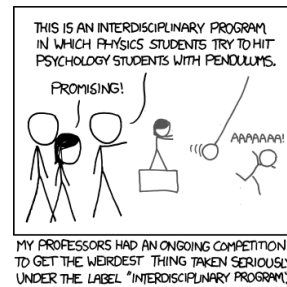
Sustainability and Online Communities An Introduction

- What is sustainability?
- What is the ENE Project?
- Sustainable online communities
- Some words about singularities
- The goals of this conference

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What is Sustainability?

- conservation of flora and fauna
- social justice

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What is Sustainability?
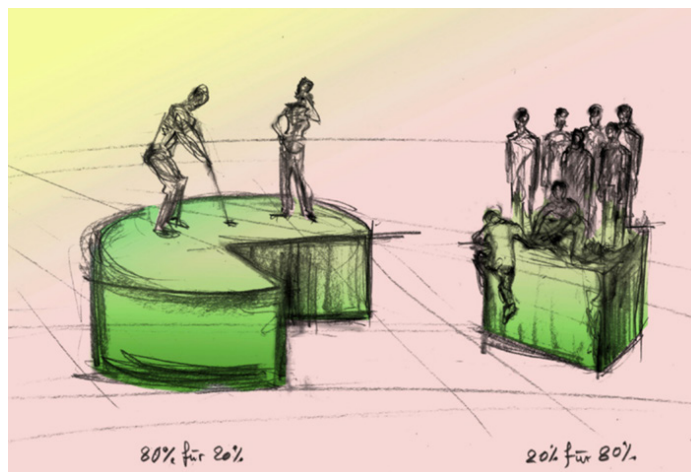
- conservation of flora and fauna
- social justice

Categories of sustainability

- sustainability as a topic
- weak sustainability
- strong sustainability
- integrated sustainability

- speak about it
- market regulations
- consistency, efficiency, sufficiency
- harmony with nature

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Sustainability in Information Technology

Information is an unlimited resource!

- Classical business model: artificial shortage
- Free Software / Open Source: Make use of the infinity!

"Bring out the best of the hardware."
Don't demand faster hardware, but optimise your software.

Free Software (Open Source)
and **open standards**
instead of "black boxes"

Security, privacy, freedom of information
Cryptography, anonymisation

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Sustainability in Information Technology

Information is an unlimited resource!

- Classical business model: artificial shortage
- Free Software / Open Source: Make use of the infinity!

Example Projects

- Skolelinux
- One Laptop Per Child

- Open Source Ecology:
  Global Village Construction Set
- *Coming soon:* **ENE**

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Towards a Sustainable Online Community

What is the ENE Project?

Erlebnisraum Nachhaltige Entwicklung
Sustainable Development – Room of Experience

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What is the ENE Project?

Erlebnisraum Nachhaltige Entwicklung
Sustainable Development – Room of Experience

Sub-Projects:
A: Constitution of the ENE
B: Schools in Bochum and Gelsenkirchen
C: Building a Sustainable Online Community
D: Tools for Simulation
E: Measuring Awareness for Sustainability
F: Local Project Partners
G: Remote Project Partners
H: Oracle du Papillon

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Building an Online Community

My field of research:
ENE $\longrightarrow$ create an online forum $\longrightarrow$ done. :)

or (even simpler):
ENE $\longrightarrow$ just use FaceAppRedditter+ $\longrightarrow$ done. ;)

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Sustainable Online Communities

What's wrong with the existing platforms?

- Bound to a company
- No verifyable privacy
- No guarantee for continuity
- Commercial interests have priority

$\longrightarrow$ not sustainable

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Sustainable Online Communities

- Be consequent with this:

"Bring out the best of the hardware."

Security, privacy, freedom of information

Free Software (Open Source) and **open standards** instead of "black boxes"

- technical approach ↑
- in addition: social approach

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Sustainable Online Communities

- Diverse audience concerning
  gender, age, location, interests, etc.
- Sustains for a significantly longer time than
  what could be expected when it was created
- Less personal conflicts ("flame wars") than
  other online communities with comparable diversity
- Not driven by the consumption of external input, but
  productive by itself in some field/s of art and/or science.

open

long-time

peaceful

productive

Create such a community. ↑ ;)

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Singularities

Chaos Research

Butterfly Effect:

Small changes in the initial conditions
⟶ large differences in a later state

Example: *Double Pendulum*

Bringing a Double Pendulum Under Control:
ACIN, TU Wien, http://youtu.be/tyyitW4WS14

Another Example: *The OTT*

The OTT

http://xkcd-time.wikia.com/wiki/XKCD_Time_Wiki

Hello!

This is a wiki for the xkcd comic 1190: "Time", and specifically the community which sprang up in the comic's discussion thread on the xkcd forums. This wiki is primarily maintained by those who read and post in the #1190 thread, but anyone who is a fan of "Time" is free to join in on the conversation and work on articles.

What is this wiki about?

The forum thread's community is known not only for their in-depth analysis and discussion of #1190, but also creative endeavors relating to the webcomic. These include image manipulations of "Time" and other xkcd comics as well as original fanart, fiction and poetry. The unique personality of the forum thread (the "OTT") and its users ("OTTers") derives in part from an annual forum event popularly known as "The Madness" where ordinary words are filtered into whimsical alternatives chosen by the moderators. This filtering struck in the early days of the thread, and that whimsical attitude has persisted ever since, particularly toward language, with users continuing to add to the vocabulary of the community even today.

The thread grew initially because observers had to find a way to preserve and catalogue the individual frames of the #1190 webcomic, and many tools were invented to keep track of them, including this wiki. This desire to keep track of the past still exists in the community today. Much of this wiki concerns the thread rather than the original webcomic, because the users regard their own history with respect as well. The nature of the discussion thread means that anyone may go back and read through all of the posts (dating back to the start of "Time"), and it is therefore relatively simple for both newcomers and the regulars to catch up with goings-on inside the community. Currently the group is comprised mostly of users who seldom or never post outside of the topic, and the community tends to be essentially a self-enclosed bubble of the larger forums. Despite this, it does have a presence in other places, notably a private Facebook group, through a Cookie Clicker parody game created by one user of the community, and in the Pictionary-like game Drawception . The users have formed strong connections over their shared interests, amiable personalities, and friendly mindsets, as well as a tendency to be mildly competitive with creative works.

That's the OTT community in a nutshell: to learn more, you can always try venturing into the thread yourself!

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The Goals of This Conference

- Investigate the preconditions which lead to the formation of a sustainable online community.

- Investigate potential technical and social measures to further the formation and the stability of sustainable online communities.

**. . .** and don't forget: ***Science can be fun!***

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Sustainable Communities:
Online and Off

Hugh E. Seymour

When I was a student at Nottingham and asked 10 engineers about the meaning of "sustainable", I got 40 answers.

So what does 'Sustainable' mean? Green. Long-lasting. "Meet the needs of the present without compromising the ability of future generations to meet their needs."

Regarding *online* sustainability . . .
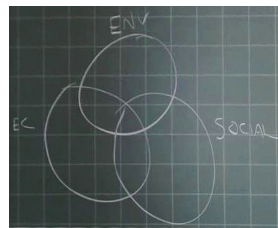
The circles are: Environemntal, Economic, and Social. My work is mostly in the Environmental domain.

I hope I don't need to explain the implications of greenhouse gases and pollution. In the UK, 26 % of emissions are from transport.

A key way to mitigate this is to reduce vehicle-trips. Vehicle production, ownership has declined in [list of industrial nations]. This may be a cultural shift, I won't speculate on why. Modal shift: get people out of their cars, use different modes of transport.

Engineering is replaced with Social Psychology. Margaret Thatcher once said, "A man who finds himself on a bus can count himself as a failure." [1] But we don't think that way today.

Who is familiar with the "carrot and stick" analogy?

To drive change: The negative way is to use the stick to push the donkey, the positive is to use the carrot to draw him towards you. A change in behaviour. Let's see now online interaction can reduce the need to travel.

Domestically: online banking, online shopping (provided delivery is more efficient), and online entertainment help reduce travel.

A "stick" against car use is traffic congestion. However, economic pressures get in the way: We can't just build more roads. That drives up vehicle use. But to improve conditions, reduce demand, and remove the perception of the "stick".

The use of connectivity and technology can have a real-world impact. We don't want complete disconnection (like in WALL-E or something). I won't get into that in detail.

This is where the model shift is important: The number of people with disabilities is on the rise. Isolation and its impact on mental health is documented. With online interaction, because careworkers are overstreatched, they can communicate with patients online. Navigation aids for the visually impaired improve their abilty to get out and socialize.

We have people with connectivity issues, they can inform us.

[. . .]

If it is all combined into one community that people are going to anyway, they can go to a familiar place and do it more effectively. All of these ideas depend on data. There is a lot of mistrust of data and its possible misuse. Some here in Germany I have talked with have a very high concern about data privacy.

[slide of a shark mascot]

Somebody offered this shark as a 3D print object, Katy Perry sued them and had it taken down.

Now some personal experiences of me as a student.

Students, as some of you are, are at the forefront of human development. It is up to you to challenge, to ask questions, to meet diverse people I am of the social media generation. I had my first mobile at age 13, joined a social media site at age 15. Even within my short lifetime there has been rapid change, that is only going to continue.

I have in on fairly good authority that the future's pretty cool.

(laughter)

Thank you.

(applause)

Discussion

Question: Pillars. You mentioned Environmental, Social and Econmic infrastructure. [. . .] What has changed here? Billions of organisms survived for billions of years. What changed, the Economic or Social or both?

Answer: I think both of those changed. Human activity has driven the changes to the [physical] environment.

References

[1] The bus "failure" quote, commonly attributed to Margaret Thatcher, is most probably not an authentic quote – see:
https://en.wikiquote.org/wiki/Margaret_Thatcher#Misattributed

The Role of Tradition
in a
Sustainable Community

taixzo

What makes communities persist? Why do some online communities persist, while others don't? I'd like to talk about two very similar communities.

So, who here is familiar with the xkcd "Landing" comic? And the "Time" comic? Ok, so for anyone who isn't, "Landing" is a comic by Randall Munroe, number 1446, and the image updated roughly every 10 minutes documenting the descent of the Philae lander onto comet Churyumov-Gerasimenko, and it kept updating for about two days and spawned an active thread in the xkcd forum. Which sort of petered out after the comic stopped updating – the last post is from December 29th.

"Time" is also a comic by Randall Munroe, number 1190, where the image updated roughly every hour and kept updating for six months. It spawned an active thread in the xkcd forum, which continued after Time stopped updating, – and not just continued, but grew to immense sizes. The Time thread currently has more words than the Old Testament, the New Testament, and the Qu'ran combined – about 2.9 million, to be exact. And still growing.

So, the Time thread persisted, while the Landing one didn't. Why? What makes threads persistent?

As a member of that community, I'd like to share three of the things I've found to be important to an online community. So, if you've been part of the community, you will have noticed it grew while waiting for new images. And while that happened, some things started to happen in the thread. We started to do things to occupy the time while we were waiting. Things like, having the first poster on a page be the "Pope" of that page and having a "decree" that was followed for the rest of that page. Things like, "Blitzing" the thread, or reading through the whole thing from the beginning, which was first attempted by Beida I believe, but made famous by BlitzGirl. And taking works of art from the outside world and making them into something relevant to the thread, or creating our own works of art, relevant to the Time comic.

And while we waited for new images we would analyze the old ones see what changed between two very similar frames. And this led to the discovery of a small moving object, which we termed a "molpy" Which was part of what became Ottish – a whole separate dialect which is a pidgin with English it's got words in common with English but many others that are different.

And, in addition, catchphrases, like "The River is Small" and other things that became part of our identity. And these – these were traditions.

So, traditions are important in keeping a community together. But why are some communities able to form these traditions and some are not? Well, the reason is moderation.

So, moderators on the xkcd fora have stated that it is unlikely that something like the Time thread would ever happen again. And the reason for this is that the point of moderation on these forums is to ensure that the discussion remains on topic. And off-topic posts are discouraged.

So, when Time came along it was such a rapidly-updating thread that the moderators just sort of let it go on its own because they couldn't keep up with it – it was hard for us to keep up with it! So, they didn't really notice what was happening until it was too late. And so we were able to build our own community. So heavy moderating can be detrimental to a community by stifling creativity. And the society which I come from, America, would not even exist if people hadn't gotten tired of the "moderation" from England and wanted to form a new society where they could express themselves. (Let me put that up too.)

And even with enough traditions being formed within a community, and not too much moderation, a persistent community still might not be formed. Why?

If you're familiar with the Twitch Plays Pokemon project, you know how it formed a similar community with Landing. Twitch Plays Pokemon and Landing both had creative communities without too much moderation, they both ran for a relatively short time – Landing ran for two days and Twitch Plays Pokemon ran for about sixteen days. Both communities fell apart after the events ended. And the common (?) element is not enough time for traditions to develop.

You have to wait for it. If you don't have enough time for people to wait and create content on their own, they will burn out because everything they say is reactionary – instead of participating as a part of a group, they participate as "I'm an individual and this is what I have to say on that subject."

When you have that then once you no longer have a subject to talk about. You no longer have anything to spur discussion. So there's no guarantees or algorithms to make a community persistent but this is what I've found.

And you'll notice that this also feeds into real-world communities of people. Human communities and relationships need the same elements to build on – they need traditions to hold us together and to give us a sense of unity; We need moderation which keeps us standing on even ground but too much can be stifling. And you need a minimum time to establish a community or a relationship to establish the traditions that build it.

And so that is why I believe tradition, with . . . (let me put this up too)

Tradition with just the right amount of moderation, and a minimum amount of time, are key foundations for a sustainable community.

Thank you.

A Sustainable Community Needs a Sustainable Platform.

Balthasar Szczepański

In my speech I would like to tell you how important in an online community the platform and the data is. And what a sustainable platform should be. Before that I will tell a little about myself, so that you can understand me better. And about a piece of software I've made, which in my opinion improves one aspect of my community's sustainability.

I'm a student of electronics at the Wrocław University of Technology. And until recently sustainability wasn't something I was interested in or even something I knew about. The contents of this speech do not come from research but from my experiense. Much of it was already posted to the Time thread. But I believe it's still worth sharing.

I'm not only a student but also a member of the OTT – the Time Thread. I joined about 1.5 year ago. Initially, I didn't plan to join but I was finding more and more reasons for staying there. I even started making things for the thread, like graphical modifications, films or a story made of pictures. And somehow I stayed.

There was an event, more than a year ago, that made sustainability become something important to me. There was a time when we coud not access the thread. We couldn't read. We couldn't write. This repeated multiple times. Some of us, including me, were afraid of this. I was very afraid of this situation. I was afraid that this could even mean the end of this community.

I realised that something should be done about this. To make sure that such events do not end the community. I made a piece of software, the OTT Mirror, which has later been made publicly available [addr] so that everyone can see it, everyone can download the sources.
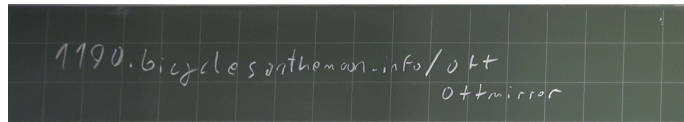
Address of the OTT Mirror

What is the mirror and how does it work? On a small single-board-computer at my home there is a bot running, and reading pages from the thread, making copies of everything: the text, external images, attachments, avatars. And when the OTT's server's not working it's possible read form the mirror almost like if one was reading from the original thread. That's not all. It's also possible to write posts from the mirror. There is aother, small tread created exactly for

this purpose. And another bot sends posts back to the original thread. So the mirror works almost like the original thread and can be used when the forun is not working.

While I was working on this I realised how important the data is and how important it is to have it constantly available.

What is an online community? An online community is made of people. People who are interacting with each other. They have a common feeling of belonging together, of being part of the community. (fig. 1)
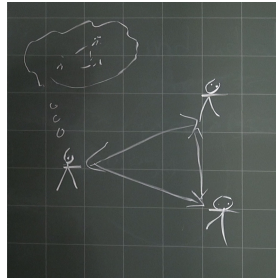

Fig. 1

In an online community, there is another part – the platform. The platform is what people use to make online communication work. This may seem simple: the platform is there because there has to be a men of communication, and that's all. But how important the platform really is, becomes more clear when looking at not how being in a community looks (fig. 2) but how it feels (fig. 3).
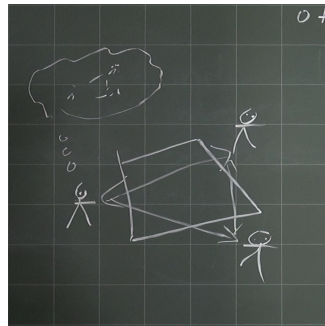
Fig. 2
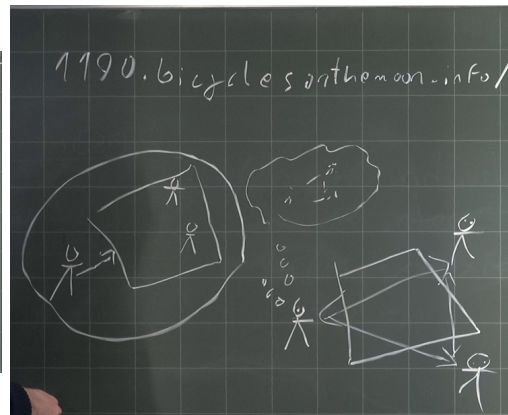
Fig. 3

When you are part of an online community you see other people "inside" this platform. That's why when something happens to the platform, from your point of view in happens it happens to the platform and all the people. (fig. 4) For you the platform and the people are completely gone. If this lasts too long, it can even mean an end of a community.
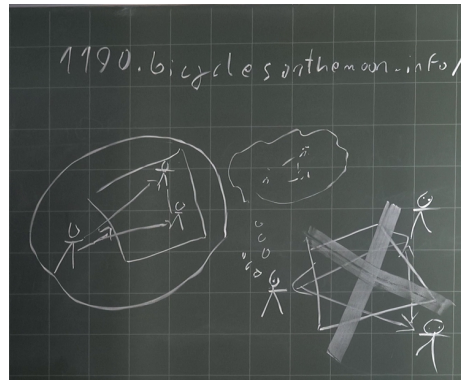
Fig. 4

What a community is, is defined by how people perceive it. How they see the community, makes the community what it really is. How we see a community comes from what we see in the interactions (fig. 5). These interactions are accessed through the platform. From what is inside the platform comes what is inside our heads. Everything that we see in the community is inside the data (on the platform). In some kind of way everything that makes the community is in the data.
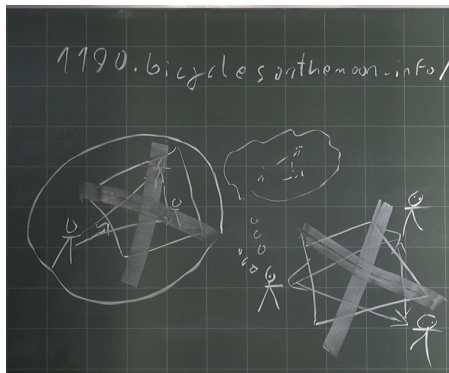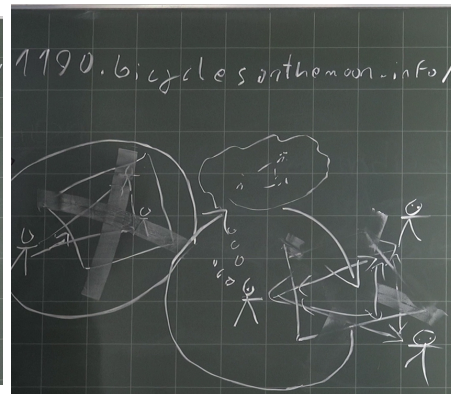

Fig. 5

Fig. 6

How you see the community affects what you add to it (fig. 6). And adding to the community changes what's inside the platform. And this changes in turn how other people see the community. And what they add to it (fig. 7). And so on. This is some kind of a feedback loop (fig. 7).
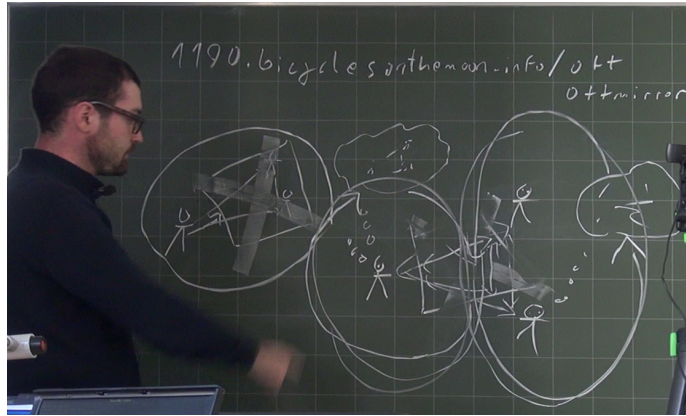
Fig. 7

When something happens to the platform, the loop is broken. Of course we can create a new one and continue there. But there is also a time scale to this. What affects our view of the community and our interactions with it is not only the data from now but also the data from some time ago. and our view of the community from some time ago. (fig. 8). If we lose our platform we also lose access to our history. And history is one of thge things that make the community what it really is.
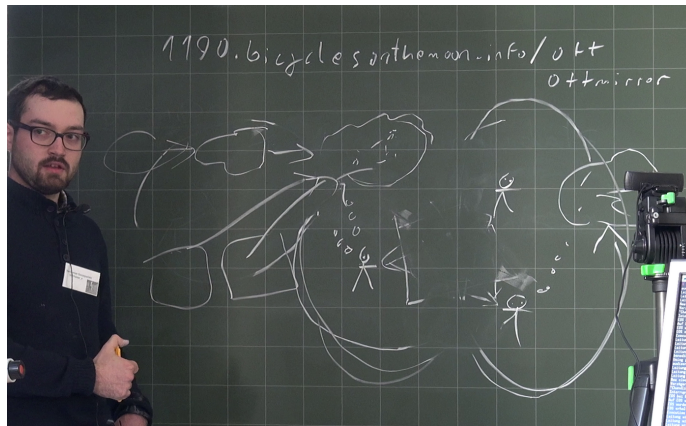

Fig. 8

If a community wants to stay sustainable, it should have a platform that will allow it to stay sustainable – a sustainable platform.

What should a sustainable platform be?

First of all, it should work. It should allow us read, to write. And this shouldn't be too difficult. Otherwise it may stop people from coming to it.

It should make it possible to access the history. That is not the case in all platforms. An example of this is Facebook (which requires scrolling down and waiting for older posts to load, etc.).

It should really do what it is supposed to do and not something else. If it's a forum software we should be able to tell if it really acts like a forum software and nothing more. We have to know what it does. It has to be free softwere, then we can have access to the source code and be sure what it does.

The data should belong to the community itself or to someone the community can trust. If the community doesn't control its own data it doesn't have full conrol over itself.

Also, this data should be protected. Even a public forum has some data, like private messages, that need to be protected.

How does the situation look for us? Is our platform sustainable? The servers are reliable. The event that made them unavailable was caused by outside attacks, not problems with he servers themselves. PhpBB is free software (GPL2) so we can access its source and see what it does. And so far it's not likely that the forum will stop existing soon and it's not likely that we will not be allowed to continue having the thread there. But we can't be sure that the forum will exist as long as we want our community to exist. For other communities the situation may be better or worse than ours.

What should be done in such a situation? A very simple answer that might come to someone's mind would be: If this [platform] is not sustainable enough then let's move to a platform that is more sustainable. But the question is: If we move to a more sustainable platform will we be able to continue being a sustainable community?

This may seem paradoxical: A sustainable platform is a platform that allows the community to be sustainable, so why wouldn't it be able to remain sustainable after moving there? It comes from the fact that what I presented so far is just one aspect – a more technincal than social. And in some sense the platform itself is part of the community.

If we could move to a platform, that is the same as our thread with the only exception that we would be able to control how long it lasts because that would depend on us and not on someone else; would we move there? I suspect we wouldn't. And there are some reasons for this.

For some people even such a thing as registering to a new place may be too much and they would not be able to join the new place.

We have a lot of people that visit the thread not very frequently and they might not notice the announcement. And when they see that the thread is no longer on top of the list of the individual xkcd comics threads they will just assume that the thread has ended.

We are welcome here, where we are. We are also visited by people from other threads.

We want to stay here as long as possible. But we want to be able to continue when it's no longer possible. The same may be the case for other communities.

Is there a solution for this? One of the things that could be done – and that's exactly what I was doing – is providing redundancy. Having the data copied somewhere else allows to move somewhere else after something happens to the platform, when we have to, and be able to continue.

Is the mirror in the shape it has today a solution for this? I would say it isn't. It's not fully compatible yet. The new messages appear on a completely new thread that is joined to the original one after the original starts working again. And viewing them is very limited. On the redundant thread for the new messages we don't see avatars, signatures, an so on. And also its internal structure is made so that it is as easy as possible for the bot to post it but not as easy as possible for the content to be displayed, divided to pages, etc. to maintain it when it grows larger.

There is another problem. There is only one mirror. If something happens to me, anything can happen to me at any time, then we no longer have this copy. What should be done about this?

What could be done, is to improve this to make it that it could work on multiple servers at the same time. Someone else would install another copy of this and they would synchronize with each other. If one of the copies saves something from the thread it will also send it to other copies. If you post something to one of the copies. It would send it ont only to the original but also to the other copies. And we should be able to do all the things that we can do on the original thread, such as changing the avatars, signatures, etc.

I have some ideas how to do this. But right now I, for example, have no idea how to make the PM system work between the copies and the original thread. And there are some other problems.

But that's just for our community. How about something more general? Other communities are formed on other platforms. Which are not compatible with what I was doing. But this is free software. And maybe someone else might become inspired and do something else – for someone else.

But even it that happens that's still not the final solution. In our community we have people that know, or can find out how to do this. Because you have to get a server, install the software on it, make it available from outside, and other such things. On other communities they not necessarily have people who know how to do this.

A sustainable platform must be as easy as possible for other people to set up. Maybe it would be a solution if there was a project where the software comes together with the hardware. So you just buy the thing, the software is already there but it can be also downloaded, then you just connect it and start it.

There is one more problem – it has to be accessible from the outside. You still have to know how to configure it. There is hope. What are the problems of being available from the outside? Two of them are the private networks and dynamicly changing IPs. But if the IPv6 standard becomes more popular, there will be no need for such things because there will be enough addresses so that we don't have to add extra layers of private networks and changing IP addresses. Then the only thing that would be left is adding a name to the address.

And if that can be done, then I think it will be more likely that sustainable online communities will appear on platforms that are already sustainable.

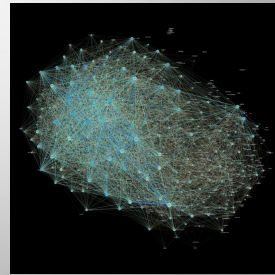# Exploring the Formation of Sustainable Online Communities

Chelsea Rash

Outline of Traits

- Amiable/Friendly Population
- Beyond the Comic: Community for the Sake of Community
- Acceptance of New Members
- Community Flexibility

I: AMIABLE POPULATION

Amiable Population

- Traits common to xkcd fans and forumites
- Present in both OTT and Otherthreads
- However, the OTT manages to dampen so-called "flame wars"
- Unique trait: Patience
  - "Wait for it."
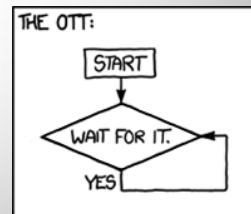
A Patient Population

- Frequent visits to the same thread over a period of months (mips)
- Analysis of the comic itself was extensive
- However, the OTC could not be "cheated"
  - Compare to "Click and Drag"
  - Mock religion as acknowledgement of a "higher power" that defied mortal circumvention

Duration Matters

- As mentioned in taixzo's speech earlier
- Duration of "Time" vs. "Landing"
- Similar comic structure but temporally different
- Did the OTT affect a second community's creation?
  - Speculation: Two True Threads
- Day-long duration of "Landing"
  - As opposed to stamina required for "Time"

A Deliberate Population

- More considered responses
- Desire to avoid unmolpishness within the thread posts
- Community consciousness
  - Mindful of environment
  - Mindful of others
- Sustainability: Awareness beyond the individual's needs

II: BEYOND THE COMIC

Not Just the OTC Anymore

- More than patience helps the thread
  - No "it" left to "Wait for"
- Why did people remain past the end of the comic?
- More than individuals: a community

Individual Comic Threads

- Unanticipated community creation
- "Mayfly" syndrome in ICT
  - Post and then disappear
- Other subforums acquire communities gradually
- Location of the OTT is unusual for the fora

OTTers Work Together

- Consuming all frames of "Time" not an individual effort
- Reliance upon others
- Beyond bots: the meteor sequence
  - Working together to achieve a goal

Redundancy is Molpish

- Community as redundancy of individuals
- Support system, safety net
- Effort to serve the community of Time fans
- Community survives beyond comic
  - Respect for others and their work
  - Effort to replenish the community (TimeAfterTime, t1i, bftf)
  - Community for the sake of community
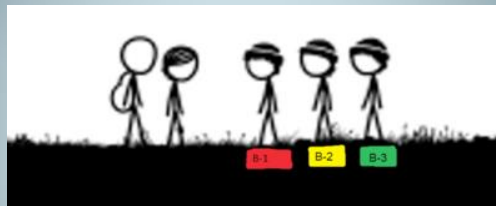
III: NEW FACES

Welcoming Newcomers

- Need to attract new people occasionally to remain sustainable
- Ability to convey sustainable thread and community attitudes to newcomers
- New OTTers are different = good!
  - However, complicated to introduce them to the community
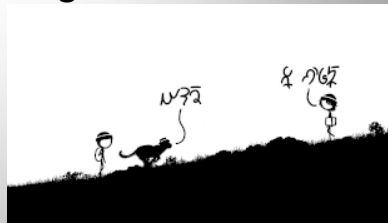
OTT Newcomer Strategies

- Recognizing New People
  - "Bumping" first posts lost in moderation
  - Bring the individual into the Present conversation
- Acknowledgement
  - Assumption of value of the individual
  - As compared to benign neglect
- Awarding of title "Revealer the Recent"
  - Connection to past

Accessibility to Thread History

- Anyone has access to both the current "live" conversation and all of the pastpages
- Possibility of reading it ALL
  - "Blitzing"
- History of society available beyond the context in which it developed
- Also a searchable resource
  - "Revisitable memory"

Temporal Shenanigans

- Ability to read the past but speak to the present
- Record of new conversation can be accessed live or by blitzing your way to it
- Using forum features to communicate across Time
  - Avatars, locations, signatures
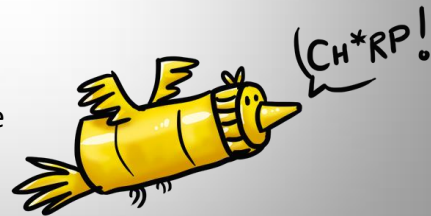- Multiple avenues into the thread community

IV: FLEXIBILTY

Culture of Flexibility

- Creative solutions to difficulties in communication
- Possible result of the Madness in early dips
- Tolerance to change
- Ability to overcome challenges (mustard)
  - Community exists beyond the forum space
  - Sustainable beyond this particular platform

Flexible Language and Tradition

- New terms for unique strategies as well as common vocabulary
  - E.g. "sigcouragement" or "seaish"
- A community of words
- Everyone can contribute words, art, traditions
  - More apt to participate due to this knowledge
- Flexibility encourages creativity
  - Creation encourages sustainability

V: CONCLUSION

A Sustainable Online Community

- Sustainable OTT Traits:
  - Encourages Creation
  - Welcomes New People
  - Community Consciousness
  - Community for community's sake

T **** **D**

The Human Factor
in the Downfall of Communities

E. Stenner

No Dar Mor. Vapeur et Razorback. Le Monde Perdu. Cœur Tribal.

These are a few of the many communities I have been part of in the last 10 years which are now extinct or close to being so.

People leave. That's a fact. Whether by boredom, loss of interest, conflict, or loss of ability, a community is constantly leaking members to the outside. To achieve sustainability, we must strive towards two goals: limiting the leak, and compensating for the losses.

Looking back, I have found that the downfall of these communities can only be attributed to human error.

During this speech, we will take a more detailed look at what happened to them, and what steps may be taken to avoid their fate.

For each of them, I will first give a short overview of their concept, I will then proceed to explain what caused their demise, and finish with some examples of what could have allowed them to achieve sustainability.

Before concluding, we will also look at other potential causes of unsustainability that I have not witnessed personally yet (and hope to never witness).

1 – No Dar Mor and Vapeur et Razorback (V&R)

Both of these communities formed around the tabletop wargame *Confrontation* by French company Rackham.

The former was a local gaming group that formed to carpool to tournaments, discuss the game in detail, and generally have fun together.

The latter was a forum dedicated to one of the games factions: the Dwarves of Tir Na Bor, with an interesting gimmick: the forum posed as a Dwarven tavern.

I have lumped these two together as they were based around the same core concept, and met their ends almost simultaneously with the exact same cause.

Why keep both, you're probably wondering. V&R was overall a better example of an overly specialised community, but is now unfortunately completely defunct, since the original forum 404ed a few years ago.

Incidentally, while conducting research for this speech, I discovered that a revival was attempted in July 2009, only to fail again two months later, with a grand total of 7 members (2 of which never even posted) and 12 threads.

This nicely illustrates a first shortcoming in the sustainability of the community, since very few former members seem to have been informed of this revival.

Due to the lack of historical data concerning V&R, I will be using *No Dar Mor* for tangible elements and time line keeping, since that forum still exists (although the last post was in November 2008).

So what happened? Somewhere around March 2007, Rackham took a business decision that alienated a large part of their customers. Namely, they announced that future miniatures would no longer be their usual tin-lead alloy, but pre-painted plastic. Many players (myself included) happened to enjoy painting and customising their minis almost more than using them on the table, and subsequently jumped ship.

With this massive desertion, although people still played the game, public interest gradually dropped. This would eventually cause the company to go bankrupt, in October 2010.

Following these events, with less people interested in talking, and less things to talk about, a slowed activity in satellite communities was to be expected, and indeed, both our cases ended shortly thereafter: No Dar Mor has a thread proclaiming the death of the local community on the 13th of May 2008, and the forum's very last post on the 24th of November 2008.

The original V&R shut down approximately at the same time.

I'd like to posit that both could have sustained, had they not been so focused on a single game.

No Dar Mor, for instance, would have been the easiest to save, by simply re purposing as a general tabletop and role-playing community. Even today, there is still a relatively large number of roleplayers in town that could have kept the community going. By keeping to ourselves, and failing to broaden our perspective, we collectively signed the group's death sentence.

V&R, on the other hand, was so tightly focused on its subject, that their end was inevitable. Broadening perspectives would require a radical re-thinking of the entire community. Maybe expanding on the whole tavern thing, and leaving Confrontation to the side, but even then, that would require a significant number of members to pull off durably.

2 − Le Monde Perdu

On the other side of the spectrum, stands *Le Monde Perdu*: a general discussion forum.

Created in March 2008, this was essentially a chat room disguised as a forum, with no other objective than to be a pretty molpish place – and to be honest, it was. The admin was, despite his handle ("Conan the Destroyer"), a pretty nice and understanding person, and discussion topics were varied and generally pretty courteous.

Also, it's where I met my wife, but that's another story. ;)

So what happened here?

Well, as is to be expected, not everyone has the same interests. Some people held to a specific sub-forum, while others tried to blitz the entire thing (not saying who >.>).

And with about 40 members having more than 10 posts spread across 7 years, there were little more than 10 people active on the forum in a given time period. Given the 10 categories comprising 50 different sub-fora, it's pretty much a miracle the whole thing lasted so long.

Eventually, apart from the forum games section, there was very little activity, and each leaving member accentuated that phenomenon even further. Diminished activity led to more departures by boredom, and so on. On the other hand, each new member generated quite a lot of discussion and tended to delay departures.

The problem is: there were always more departures than arrivals, and new members didn't always stay. We've had a fair share of "tumbleweeds", as they're called on the xkcd fora.

So sadly, that community book-ended with only Conan and the first mod left, just as they began.

As this case illustrates, activity calls more activity, silence calls more silence. A community spread too thin cannot generate enough concentrated activity to be attractive to new members.

As for how the forum could have sustained? Less categories would have concentrated the activity in a single place, allowing members to interact a lot more, in turn generating more discussions.

As an anecdote, my brother in law was also a member, and I had no idea until my (not yet at the time) wife told me. He stayed in the anime/manga section which I had little interest in at the time, so we very rarely interacted.

3 – Cœur Tribal

Our last case is technically not dead yet, but really not in a good shape. *Cœur Tribal* is a guild on Chinese MMO Forsaken World.

To start with, MMO guilds are pretty much unsustainable by design, as they depend on the game where they are created to last.

That said, there are ways to make them sustain long after the game servers have been shut down. Some have done so, like the Millennium guild, who now span several mumorpugers by taking most of their discussion canals out of the game.

Several additional elements challenged *Cœur Tribal*'s sustainability. First, as with *Le Monde Perdu*, we had a pretty small user base. In a game where competitivity is practically the law, trying to maintain a molpish and family-like guild turned out to be a mistake. The best players rarely want a small guild, so we ended up as a stereotypical ragtag bunch of misfits. Mind you, that didn't stop us from having a good time, but it did hinder character progression, which understandably led to quite a bit of frustration.

Next comes what is, in my opinion, the most embarrassing thing that can happen to a small and molpish community: conflict. At one point (possibly more after I retired from the game), two members who had difficulties cohabiting peacefully stopped trying. The resulting conflict turned out to be . . . rather polarising, and in the aftermath, almost half our members left for other guilds.

Looking back at the incident, it is pretty clear to me that it stemmed from the lack of a well defined social contract within the guild. The core members had been there from the beginning. We had known each other for quite a while, and knew what to expect of each other. New members did not, they didn't necessarily realise what they could do, nor which lines not to cross. Thing is: We didn't realise that either, hence the misunderstanding.

Personal drama that contributed to keep the guild too small to gather momentum. What could we have done? Well, Bankuei, a blogger I quite enjoy has a post on what he calls "the same page tool" which is a way to get people to agree to a common social contract (in this case, it's in the context of role-playing games, but that can easily be re purposed.

Formulating a clear and concise social contract to make sure everyone was on the same page would have been a good start.

We also should have been more proactive in the recruitment of new members (which incidentally the contract would have made easier) to offset the inevitable departures (yes, people get bored of the game, the Outside interferes, etc . . .). Engaging in regular out of game guild activities would have also contributed to a greater sense of community and reinforced personal bonds.

That pretty much sums up my experience with well-meaning communities that mucked up somewhere along the line.

There is another threat to sustainable communities that I can think of: executive meddling. When the higher-ups decide that the community must go, whether because it is not profitable, or somehow looked at them funny, sustaining in the face of authority (or superior fire-power, as is unfortunately often the case) is a harrowing challenge.

This concludes our case studies. Now just a word before the final conclusion. A the beginning of the speech, I said something about people leaving, and needing to replace them for a community to sustain itself, without elaborating further. This might be a good time.

Basically, for people to join a community, they need to be able to find it, learn about it, and join it without too much of a hassle. They also have to want to join if they are to be more than tumbleweeds.

Finding is the easy part. Get a decent google ranking on a bunch of relevant concepts, and you're halfway there. Active recruitment is also a possibility, although slower and a much more involved process.

For potential future members to learn about the community, it must be documented, or as self-explanatory as possible. This is also a good occasion to promote the group's social contract, as it is a decent basis for them to decide whether or not they want to join.

Joining without too much trouble is another – inconspicuous but important – aspect, since having to jump through hoops just to sign up is usually enough to make people question their motivation.

And while on the subject of design elements, I'll cite the seventh aphorism of the Zen of Python: "Readability counts". This is more true than most people

realise. If the simple act of reading something is difficult, expect people to be turned away, especially people with sensory disabilities.

Accessibility should be worked into the community's framework from the very beginning.

In conclusion, there are many obstacles that an aspiring sustainable community must avoid, including, but (I suspect) not limited to: focusing too closely on a single subject, not being focused enough, falling prey to boredom or conflict. Or being nuked from orbit, but I hope that's a pretty rare occurrence. Fortunately, once we are aware of these dangers, we can find solutions to avoid them, or repair the damage that has been caused.

Calm, clear communication is essential, as are flexibility and clear, logical rules.

Finding new members is also a pretty big obstacle that must be taken into account from the get go and incorporated into your design.

Thank you for ~~listening~~ reading.

Group Therapy
and
# Sustainable Online Communities

Monday S. Addams

First things first – we had breakdowns in communication.

In our virtual communication I proposed that I'd talk about the internet and group therapy. That the [Time] thread can be used for group therapy. He didn't think that the administration would like that. So he gave me 3 questions that he'd like answered at the conference.

First of these questions was much too technical for me to answer – I had not a clue. The second was obvious and I could answer with a list.

And the third was the eternal question – how do we not be evil; how do we keep our tools and ourselves from being used for evil. He was asking how do we live in peace. I fired back to him, "what do you want me to do, write about professional ethics"?

So it looks like I'm going to do both.
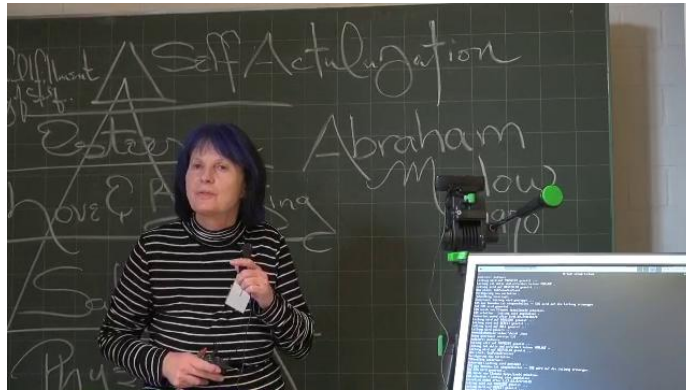
The Time thread, any internet community, any human interaction is group therapy. It can be supportive, satisfying, and enriching. Any group therapy or interaction can be like that. They can also be extraordinarily toxic. What you want to be – and we have been – is enriching, supportive, and good for your membership. You want that to continue – how are you going to get there?

Going way back – my way to do ethics is to take a trip on the wayback machine. Mine goes to Confucianism in the east, which has a solid root in taoism. Which asks, "how do we live in peace?" Their word was harmony – with nature and man. Two forces out to kill us almost every day.

Confucius, the way he codified that, how he brought it into language and systems his people could use, he answered that question. Basically he said to test their intellect, their professional performance, and the quality of their moral fiber. Confucianism is being used today, whether in name or just in spirit, in the western world. We test one another in universities with his methods, over and over again, and we get to be professionals. And professionals have ethics.

In the west for professional ethics, my wayback machine goes to Aristotle for law. I think that's where the joke comes from that the world rides on a turtle – it's turtles all the way down. Because it's not about the physical sciences. It's about the fog of law, ethics, the way we're going to live with each other. When the volcanoes and floods and fire and war all come, how are we going to be. Those are our ethics. It doesn't matter what the world rides on, turtles or aardvarks. What are our ethics?

That's one part. The other, for my profession, is Hippocrates, born a couple hundred years later. Medicine, hard science – that's what most of us are interested in. We came to the time thread, through XKCD, those people are interested in hard science. That's where we get our sense of ethics, something we all share.

(interupted by audience laughing at chat)

Small rant before I'm done – Abraham Maslow, he died in 1970. He's ancient history for you guys, like the others I've mentioned, but for me he was real. He came up with this hierarchy [1].
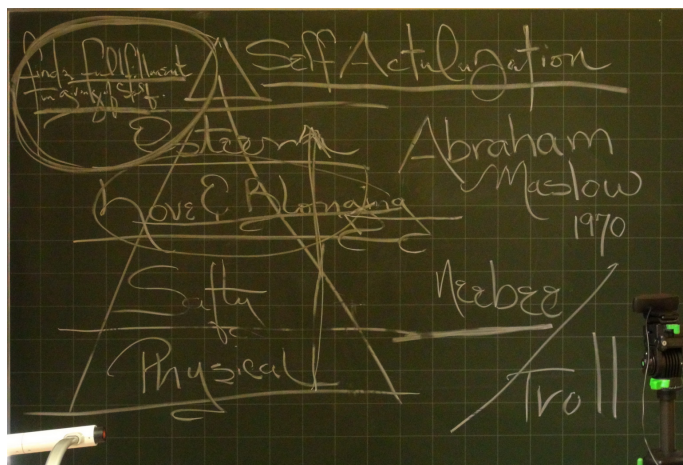
Mostly we read this as the individual person. But it works with military organisations, online communities, universities; anywhere you have more than 3 or 4 people, this hierarchy applies. Internet usually does not meet our physical needs. Either it doesn't at all, or doesn't very much.

Next line up – safety. *(Asking about how many people in room know the hierarchy – about 1/3.)* The hierarchy is set up so our physical well-being is foundational. Because of my profession, I had this list broken down into twenty

lines, and at the very bottom was breathing. If somebody's not breathing, it's a problem, and they're going to struggle against that.

Then you work your way up to safety. That's where the OTT steps in; it provides safety to its members. Not completely, but it meets the safety requirement by being protected by XKCD, and by the values and traditions of its members. It's a good thing.

The next layer up is love and belonging – and these are struggles. *(drawing upwards arrow)* This is not something that just happens. Confucianism says every man can be better than he is, by his own effort within the society, that the culture supports the man to be more. Maslow said that every man can be what he must be, that you can be your best. But it's not easy, not handed to you, it's a struggle. As we move up the hierarchy, we become more and more intellectual, right? Breathing, it's kind of an animal thing. We've moved up to "Love & Belonging" – that's real important to dogs; cats don't care so much; incredibly important to humans. This is where the Time thread, and other internet communities, begin to satisfy a human "need". It's not a want, not a whim. We have a need for love and belonging, as we do for breathing. But it's a struggle – you have to protect your community. You need moderators, and people to protect the software and hardware, to get these people who become friends, like family. *(gestures at audience)* These people are separated by long distances. So "Love & Belonging" is really well represented in XKCD.

Self-esteem – the trolls have a lot, they feel good about themselves – but do they have respect of others? Well they have the respect of other trolls. But you respect each other for being kind, flexible, intelligent and creative. You don't respect the troll within.

The trolls are happy guys, and this is a problem. But we're going to stick with normal, positive psychology. Maslow didn't do patho-psychology very much. He understood it, but this hierarchy is about those of us who are functioning, not abnormal. We get to "Esteem" – have you earned your own self-respect, and do you see respect reflected back in the eyes of people you respect? If those two conditions are met, you've met the "Esteem" layer.

And then, the highest of the high – "Self Actualization". On the American money, this is separated. It's not connected to the rest of the hierarchy. Some people say, "most men live lives of quiet desperation"; that the self-actualized individual will have peak experiences. The Time thread has provided intellectual peak experiences. But this, there are books written about this hierarchy, I could go on and on – what do you *want* to know?

I'd like to address the troll – Maslow's work, and a great deal of what you're doing with the Time thread, are about positive psychology; normal healthy people, functioning better and happier, with companionship. There's another thing happening in humans, it's pathopsychology – this thing called trolls. Trolling can spread, its like a mental illness. I think it will have to end up in the next DSM. (Description of DSM – Diagnostic and Statistical Manual of Mental Disorders).

Group therapy is catching mental health. If you go play with trolls, you're going to catch mental illness. These people have been well documented. I don't

know much about this, but they're faceless, anonymous, there's no accountability. I would accuse them of having weak moral fiber. And that they're still working with this, every human being's working with this hierarchy. It can be used as an assessment tool. It can help with trolls, but I would rather work with the mentally well than the mentally ill.

Oh, one important point *(jumps up and down)* that I may know something about, that – and I'm not telling you anything new, you probably know this. We need to be careful in the Time thread, in the Internet, its whole giant self; to know the difference between a newbie and a troll. Newbies are children, they make mistakes, they're stupid. All children if they live long enough to be teenagers, they become argumentative. They think they're all going to grow up and be attorneys, and *very very* good ones. It's a developmental stage. As soon as they are literate, and can use the internet, they're growing up with these documented lives. So there will be clumsy 11-year-olds; trollish 15 to 17-year-olds. And then as they mature, the internet can not forget but it *must* be able to forgive its young when they want to stop being trolls, and grow up and mature. Just like a family forgives the clumsy 11s, the argumentative 15s, and the 18, 19, & 30 year old that makes mistakes. What you've created is like a family, we belong to the family of man.

I have enjoyed the conference, thank you.
(applause)

Discussion

lmjb1964: More a comment than a question. I would disagree that trolls are happy people, that they're having a good time. I'm sure it depends on the person, but I think that a lot are very unhappy, and they're just spreading it. I know people that do that not on the internet as well.

StormAngel: *I'm* happy – no, just kidding.

addams: I agree that they're often unhappy and mentally ill. We treat this illness for two reasons, because the person is miserable, suffering and seeking help; and because they're making everybody around them miserable. I once knew a woman that, the way I described her is "no she's not mentally ill, everybody around her is". That type of person needs treatment to help those around them.

Once in a while, it's not that uncommon, that people who are causing suffering are really having a great time, they are *loving* it! But some of them would like help. And if they saw a community like you've made, and were allowed to come in, only if they behaved themselves, they might seek help.

lmjb1964: The problem is that they may need help, but the people online can't necessarily help them. They're out there, they can do whatever they want. You can't have an intervention, well maybe; but you can't just herd them

into a room and say "Okay, you need to have help". So, for a community that's trying to be sustainable, they won't be able to fix the troll, so they just need to have ways of dealing . . .

addams: You have a set of traditions that protect against the troll already in place. Nobody's bulletproof, but you have many things that would protect against trolls. Tradition of no flame wars; you'll try to fix it within the thread, then you'll use the chain of command. You try talking to each other, calm them down, laugh about it, make it a joke.

If horizontal doesn't work, you use the vertical chain. You can just push the button, and nobody knows who pushed the button. But some moderator, who can reach through that screen, bitch slap them and lock-up their keyboard, will take care of your little problem for you.

Victor: To the mental illness part – you can become mentally ill, but it's not transmissible the way disease is.

Wrong ideas, concepts, ideals, and standards are transmissible.

But I didn't want to go into that.

I want to emphasize that science is very important, and I really loved your presentation, it was absolutely fantastic. The science of the internet, or at least its users, is sociology. So what's really important here, is behaving social and civil. That is the main key to using a communications network, which is after all what the internet is.

The problem is, at the beginning you don't know how to behave, you're a newbie. And "noobs" can get the ideas from other trolls stuck in their head that it's okay to behave this way, because their parents don't step in and intervene. They've allowed them to access a tool meant for adults. If children use it, it should be limited to protect them from exposure to dangerous ideas until they're ready to handle them, and not "catch" these bad concepts.

Furthermore, "the internet does not forget" is correct. But it can't forgive because it's an abstract concept. The *users* of the internet have to forgive. The humans on the net right now, they're not very forgiving; which means we need to again focus on how parents allow their children to participate, so that the *future* users can become more civil. We've already messed up by allowing 7-year-olds to stream their bedroom into the internet without even knowing what they're doing. Recently in Germany, the whole "you now" problem, or whatever – look it up.

But again, it's the parents who need to ensure their children don't become trolls.

addams: What good parenting is, is an entire area of study – there's a whole building on this campus, almost guaranteed, called Human Development & Child Development, and Education. We know how to treat the human well, and it's no big secret that some fail at this task. And we end up

with the noob, no matter how successful we are. Will the noob become a troll? We don't know.

Victor: The issue here is, comparing the internet to becoming parents; we are allowed to become parents, and use the internet, without any licensing or education. But to drive a car, we must go through thorough training to get permission. Yet on the internet we can go out and do whatever we want.

ucim: "Parents" may be overstating it. We all influence and educate each other.

addams: That's another subject for serious business, it's gone off-topic. In the community where I met these people, when we go off topic, we're asked to make a thread in Serious Business.

Eternal Density: Do you [Victor] think that religious people should be allowed to raise children?

addams: You guys are doing a Serious Business thread!

Victor: It depends entirely, not on what they believe or think or feel, but only on what they do. So if they treat the child well, it doesn't matter what they believe to be true; they will turn out well depending on their actions.

addams: May I speak? Okay it's my turn. *(circling text on chalkboard)*

This writing in the corner says "The self-actualized human being finds fulfilment outside of and in giving of self".
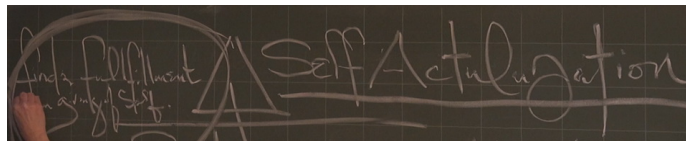
It's *almost* religion. How you did it, who came up with the idea, where it came from, to start using the language of religions inside the Time thread. I don't know why, I have not a clue.

What Maslow says is that the self-actualized human being finds fulfilment *outside* of self. That all of this work becomes self actualised, and then you look outside of yourself. And it is in giving away – there are so many ways that this exact thing is said.

We do not go outside in the world and find ourselves; we go out and create ourselves. And after we create this "self", then we give it away.

Eternal Density: There is no greater love than this: that a man lay down his life for his friends.

addams: It's one of those gifts that is worth more in the giving – like love. It's wonderful to love, but it's great to *share* the loving.

ucim: Well said addams!

addams: [To Blitzgirl] I have no idea what you do with that punsaw, but people like it! *(audience laughter)*

　The way you treat one another, the kindness you give one another, it's good for you. If you think it's a religion that's just fine. If you think it's not, that it's an anti-religion, that's just fine too.

Victor: I don't think it's either religion or anti-religion, it's just philosophy.

addams: That's Buddhism and Taoism!

　If it is satisfying, and good for the members, then hallelujah!

(applause)

References

[1] Maslow's hierarchy of needs:
https://en.wikipedia.org/wiki/Maslow's_hierarchy_of_needs
https://de.wikipedia.org/wiki/Maslowsche_Bed%C3%BCrfnishierarchie
(The German article is better in some places.) Also this illustration is useful, showing evolution over time of the overlapping domains of the different priorities: https://de.wikipedia.org/wiki/Datei:Dynamische_Darstellung_der_Bed%C3%BCrfnishierarchie_nach_Maslow.svg [mrob27]

"Wait for it."

SilentTimer

Here's my speech.

Right now, SilentTimer wrote:

*** STARTING SPEECH TRANSMISSION FROM THE PRESENT ***

𝔶 ⁊⁊ 👺

> **In the invitation to this conference, Sustainabilizer wrote:**
> [. . .] we are investigating
>
> - the preconditions which lead to the formation of a sustainable online community,
> - technical and social measures to further the formation and the stability of sustainable online communities.

So we are here, putting ourselves under the microscope.

> **In the OTT, ucim wrote:**
>
> > **Sustainabilizer wrote:** By thinking about ourselves we will transform ourselves. It's a scientific experiment.
>
> I wonder if the way we transform ourselves will have a lot to do with the fact that it is us that is under the microscope. We may discover unmolpish things about each other and about ourselves (This is science, right? Not public relations!). It will be interesting to see how that plays out.

After having observed the first dip of this conference I dare to say that it does not change much. It is as molpish as always. And at the same time it does change everything.

Communication in an online forum is different from communication in normal life. For many people this is a problem. They feel restricted by the medium. They cannot use their body language. They cannot interrupt others in strategic moments.

For other people this is a gift. They are no longer restricted by the medium of face-to-face communication where it is a problem to say things as simple as

> **In a discussion with Sustainabilizer about ⟨computery stuff⟩, mrob27 wrote:**

```
transcode{vcodec="theo",vb="800",scale="1",
acodec="vorb",ab="128",channels="1"}:std{access=http,
mux=ogg,dst="test.ogv:1190"}
```

without the danger to lose some details. They don't need to worry about body language which forces you to keep all your body parts under control all the Time. They don't get interrupted in the middle of an important thought just because someone else wants to state that xe's the greatest.

I'm glad to see at this conference that I'm not the only one who belongs to latter group. This tells me that it does not mean there's something wrong with you if you don't belong to the first group. Maybe you aren't "normal" then, but

> **quite possibly, AutoMome wrote:** If belonging to the second group is wrong, I don't want to be right.

It's interesting to see how different the same people can be in the virtual world and in the "real" world. (The "virtual" world is just as real. It's just communication by ~~other~~ *more advanced* means.)

As an example, let's have a look at our most frequent poster, the

> **Ebonite wrote:** heart and soul of the OTT.

As of 13 Feb 2015, 7:35 UTC, BlitzGirl has 7826 postings in the OTT. She even won a well-deserved *Chatty Molpy* OTTscar award.

The *Chatty Molpy* Award
(drawn by BlitzGirl, like all OTTscars)

From this one might expect her to chat around all the Time at the conference, commenting on everything, making a lot of noise. But she doesn't. She's

molpishly silent. Her comments are well-thought and to the point. Yes, they are also in the forum, but there they are more frequent. And that's perfectly okay since she doesn't interrupt anyone there.

Eternal Density (4387 posts) OTOH is as chatty in the conference as he is in the OTT. That's molpish, too. But it's different.

Then there is that young guy, Victor, whose post count appears to be exactly zero, but who is very chatty at the conference. Others are silent at both places. All this is okay.

But how can people who are so chatty as BlitzGirl (7826 posts) or Eternal Density (4387 posts) or Victor (at the conference) and those who are as silent as myself or BlitzGirl (at the conference) coexist so peacefully?

I think that the most seaish common denominator is the First Commandment: *Wait for it.*

The Time thread attracted posters from the pre-existing xkcd forums. Many more joined the thread specifically to find out what's going on in Time – just to find out that the posters already there didn't know either.

As Time went on, some people got bored and left. But others stayed or even joined. The thread grew. In the common effort to find out what is going on, backed by the faith in the GLR that there *was* something going on, a community emerged.

So the OTT went through two filters. First, we focus on those people in the world who read the xkcd forum. So we focus on educated people. Among them, only those pass the second filter who have the patience ~~for entropy~~ to wait for it. (Pope rhomboidal stated that xe didn't have, and didn't stay for long.) So we filter for well-educated people who have patience – precisely that kind of people who are likely to create a peaceful community.

The bad news about this is that this doesn't allow to take an existing group of people, for instance the first-year students of The Sustainable University, and turn them into a sustainable online community. Only a handful of them will pass the filter.

Those who have passed all filters might form a sustainable community. Maybe it will attract others. That's how a sustainable community can be formed. This is the good news.

Now what can be done to keep the community alive?

If it is really sustainable it will it keep itself alive. How?

Our community consists of well-educated people with a lot of patience. What will they do? The'll be creative. Which leads us to the next stage of waiting for it.

What do I mean?

Well, I created **t1i**. It's full of hidden messages, molpies, and other mysteries. It taught me how to wait for it. [1]

If you think that waiting for the next ONG creates some tension, I invite you to look at it from the other side. I always was good at waiting for it, even before Time existed. But if you see your own molpy in the ONG just in front of you and read a – very molpish – "complaint" that there aren't any molpies in the ONGs, it takes you to an entirely new world of waiting. Waiting for the

next ONG after a raptorcat attack is like a river when compared to the desire to delurk and to point everyone to your undetected molpy. By going through **t1i** I can now value even more what the GLR did for us. He is the Greatest of All Waiters.

And I really recommend to do the same, like balthasar_s is already doing. It strengthes your waiting skills, and at the same time it gives the community something new to wait for.

One more remark: There are more filters, implicit ones. For instance the xkcd fora are in English, so they attract only people who are fluent in English. This holds for many, but not for everyone. (Just look at the seaish gaps in the OTTer map.)

Conclusion

- xkcd is a filter to find well-educated people [who can speak English].

- Time is a filter to find well-educated people who can wait for it.

- Well-educated people who can wait for it will get creative, forming a sustainable online community.

- When you want to get creative, be prepared to wait even harder, but do it. It's worth it.

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Thanks to benedikt_wi for organising all the ⟨computery stuff⟩ so silently and timely.

Thanks to balthasar_s for the neat habitation at the secret base on the Moon, for the molpish travel through space, and for making it possible for me to show up physically at the conference.

Thanks to Marsh'n for the IRC transcription. It makes the conference so much easier to follow.

Thanks to lmjb1964 for reading my speech.

Thanks to y'all for listening to it, commenting on it, waiting for it. I love y'all!

Redundant:

Thanks to Sustainabilizer for letting me use his redundant organised sand when I needed it.

And for the Beanie.

*** END OF SPEECH TRANSMISSION FROM THE PRESENT ***

ETA:

> **In IRC, ggh wrote:** How did you find out what the birds say SilentTimer?

I asked Ms. Frizzle. She can talk to them. 😃
More questions?

References

[1] http://forums.xkcd.com/viewtopic.php?p=3709374#p3709374

Acknowledgements

Boom de yada, boom de yada,
boom de yada, boom de yada . . .