The Apocalypse on Twitter[1]

Theo Meder, Dong Nguyen, Rilana Gravel

Introduction

Nowadays, more and more research is being done using social media such as Twitter. For instance, Twitter can be used as the fastest news medium, commenting live on an earthquake, bad weather passing by or other news events.[2] Instead of polls, sentiment analysis of tweets could predict the outcome of elections.[3] Twitter can even be used for examining public health, from epidemics to use of medication.[4]

We decided to monitor Twitter for folklore research. In the last four months of 2012, during the so-called TINPOT project[5] of the Meertens Institute (KNAW) in Amsterdam (carried out in collaboration with Teezir BV[6] in Utrecht), we were able to monitor all the Dutch short message traffic on Twitter related to urban legends and product rumours. However, as far as real products were concerned, the results were not as spectacular as we had hoped. Most notable were the rumours saying that people would soon have to pay for each WhatsApp message they were to send, and rumours about pork fat in various products (both rumours reached some 2,000 tweets in four months). By pork fat, people on Twitter meant gelatin, which supposedly can be found in products as diverse as sweets in general, and wine gums in particular, cheese, bread, McDonalds' french fries, Pringles, the white filling in Oreo cookies, and the foam layer produced by Senseo and Nespresso coffee machines. These messages about pork are not only bad news for Muslims (the word "haram" is used regularly), but also for vegetarians and vegans. However, during the research period, there was another rumour that really became a trending topic: the impending apocalypse.

Secular (or at least: non-Christian) stories testifying that the world would come to an end on the 21st of December 2012 have been circulating for years. The main argument was that on that day, the Mayan calendar ends, and that the Maya – so to speak – possessed unique cosmic knowledge. The New Age writer who

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[1] This article is a reworking of the paper Theo Meder presented at the 32nd international conference of the International Society for Contemporary Legend Research (ISCLR) in Prague (Czech Republic), June 3, 2014.

[2] See Becker, Naaman & Gravano 2011; Sakaki, Okazaki & Matsuo 2010; and Voets 2013. Dutch people on Twitter were fast and best informed what happened on Memorial Day (4 May 2010) during the minute of silence; see Meder 2012, pp. 12-13.

[3] See O'Connor, Balasubramanyan, Routledge & Smith 2010.

[4] Paul & Dredze 2011.

[5] TINPOT is a Dutch acronym that stands for 'Language, Identity, Networks, and Product Rumours on Twitter'. During the six months research period, we mainly focussed on language and identities, which resulted in a tool called TweetGenie: see www.tweetgenie.nl. Looking at the lingual behaviour of Dutch people on Twitter (and not at their profiles or pictures), TweetGenie can guess the gender and age of these people (see Nguyen et al 2013a, 2013b and 2014, and Gravel 2013). I did a little research on product rumours in this period. We hope to continue research into networks and (lingual) variation in a next project.

[6] Teezir BV monitors social media for sentiments about products (research commissioned by commercial companies).

popularized this idea was the Mexican-American art historian and peace activist José Argüelles (1939-2011) with his book *The Mayan Factor* (1987). Most people did not believe him, nor were they convinced of his interpretation of the Mayan calendar. Besides, new Mayan calendars were found that exceeded the year 2012, while other people claimed that there would only come an end to an era when a new era is about to begin. Nevertheless, the date of December 21, 2012 as the date of the Apocalypse got implanted in many a human brain as a meme. By way of entertainment, Hollywood even released a disaster movie called *2012* in 2009. However, it remained to be seen how many people in the Netherlands would really be afraid on the day of the alledged Apocalypse. Weeks and even months before, the media had created news items about the impending doom, and sometimes they had even managed to get someone in front of their cameras who was going to survive on a mountain top, or who was building a new Ark. Still, the question remains how deep the unrest was among large parts of the population. Rumour had it that one was able to survive the end of days in the French Pyrenees village of Bugarach, but film crews that went there to document events on doomsday were merely filming each other.[7]

How can a researcher determine the average feelings among the Dutch population, without extensive interviewing, unseen and without manipulating the outcome? Although there is a distinction between the Dutch population as a whole on the one hand and Dutch people on Twitter[8] on the other, one can at least get a more or less fair indication by monitoring Dutch tweets on Twitter. Instead of conducting time consuming interviews for qualitative research, or money consuming surveys for quantitative research, we monitored Twitter between December 15 and December 27, so generally speaking from one week before until a week after the alledged Apocalypse. To make sure that we would not monitor tweets worldwide, we sponged tweets by using 27 unique Dutch keywords or combinations (coming down to: end, world, dead, die, going down, Mayan calendar, prediction, believe, doomsday):

einde 2012 wereld	einde 2012 vergaat	maya geloven
einde 2012 maya	eindvandewereld	maya einde het
einde 2012 dood	het apocalyps	maya 2012 het
21 december wereld	ik apocalyps	maya voorspelling
21 december dood	wereld apocalyps	21 december voorspelling
21 december vergaat	wereld ten onder	21 12 2012 het
wereld vergaat jaar	maya kalender het	doomsday het
wereld vergaat 2012	maya kalender wereld	doemsdag
laatste 21 december	maya kalender einde	endoftheworldconfessions het

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[7] About Bugarach, see Campion-Vincent 2011. The documentary *Bugarach et les journalistes* on YouTube (http://youtu.be/2PvuuZ7Z2_w) has unfortunately been removed because of copyright infringement. For a general introduction to 21-12-2012, see De Visser 2012.

[8] The Twitter population is not fully representative of the population of the Netherlands: only a minority of the Dutch have a Twitter account, young people are overrepresented while the middle aged and elderly are underrepresented, and finally some opinion leaders are more actively present than timid trend followers. See note 16 as well.

Sometimes words like 'het' (= the) and 'ik' (= I) are added to collect only Dutch tweets and no tweets in other languages. The last three keywords and combinations were added five days after the beginning of the survey when we noticed these were used as well. [9]

Collecting tweets

We collected 52,848 tweets about the End of Times in two weeks time. Just to give you a rough idea: if you were to print all the messages in a document, you would get a pack of paper consisting of more than 1,600 A4 sheets. Incidentally, we are not dealing with all original tweets: 61% of the tweets are actually retweets (the selection is based on the string: RT<space>).[10] Another part consists of non-literal repetitions, variations on already circulating tweets.

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Tweets in total	52,848
number of retweets	32,252 (61%)

The number of retweets is enormous; in a random sample of tweets, the percentage of retweets is much lower (3% according to Boyd, Golder & Lotan 2010). It is also obvious that messages about the Apocalypse differed in quantity per day.

DATE	NUMBER OF TWEETS
Saturday 15 December 2012	1,995
Sunday 16 December 2012	7,832
Monday 17 December 2012	6,468
Tuesday 18 December 2012	5,346
Wednesday 19 December 2012	4,595
Thursday 20 December 2012	10,326
Friday 21 December 2012	11,848
Saturday 22 December 2012	2,364
Sunday 23 December 2012	558
Monday 24 December 2012	1,002
Tuesday 25 December 2012	229
Wednesday 26 December 2012	151
Thursday 27 December 2012	134
TOTAL	**52,848**

Set out in a graph, the activity on Twitter looks like this:

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[9] The Dutch tweets about the Apocalypse were collected by Dong Nguyen, using the Twitter API of our partner Teezir BV in Utrecht.

[10] The quantitative analyses were performed with the concordancer software program AntConc.

Number of tweets about 21-12-2012
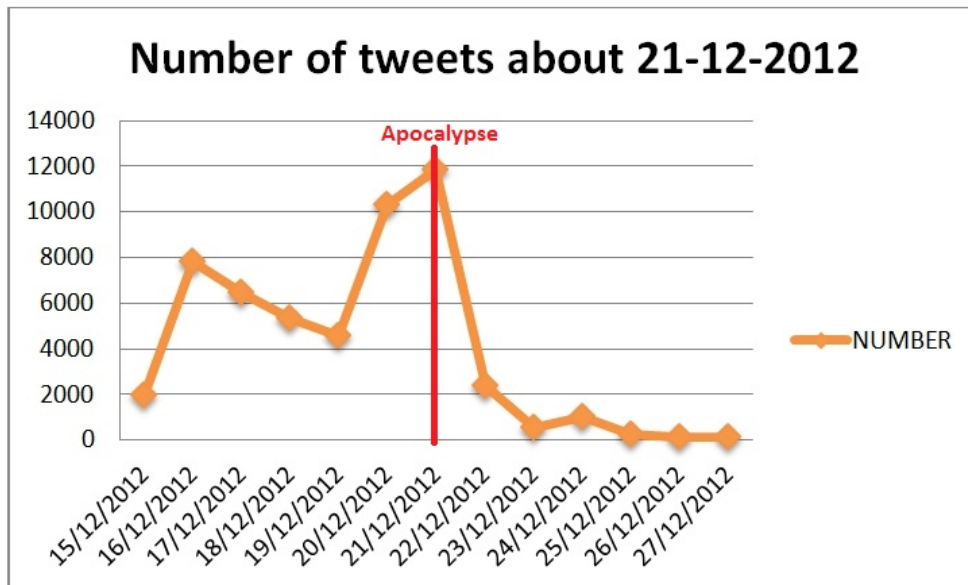
The value for the first Saturday is not entirely valid, since we only started crawling the Twitter API halfway through the day. Nevertheless, the first small peak seems to appear when everyone is free during the weekend and more people have time to tweet. After Sunday, the curve goes down a little, but shoots up again one day before the supposed Apocalypse, and the largest peak occurs - as to be expected - on the 21st of December itself. The next day, after 'doomsday' virtually passed-off smoothly, the curve immediately drops dramatically. The following days, people gradually lose interest in the subject, as it slowly peters out.

The most popular retweets

Among the most popular tweets, we count the tweets that have been retweeted more than a hundred times. This is the case for 25 tweets. Some tweets got retweeted quite literally. In other tweets, micro-variations occurred, and then they got tweeted and retweeted again. Below we present the Top Ten of popular Dutch retweets concerning the Apocalypse, followed by an English translation:

TOP TEN OF MOST POPULAR RETWEETS	NUMBER
1. RT @Mannen_Humor: Degene die gelooft dat de wereld op 21 december vergaat kan op 20 december zijn geld op mijn bankrekening storten. <diverse variaties en afzenders> *RT @Male_Humor: Those who believe that the world will end on December 21st can deposit their money into my bank account on December 20th. <several variations and senders>*	4,050
2. RT @RTditbericht: RT als jij NIET gelooft in het einde van de wereld in dec, 2012: http://t.co/4JSZNBYL <meerdere afzenders> *RT @RTthismessage: RT if you DO NOT believe in the end of the world in Dec, 2012: http://t.co/4JSZNBYL <several senders>*	1,536
3. #tweetvandeweek: De Maya's hebben een nieuwe theorie waardoor we nog 200 jaar leven. De wereld vergaat pas als Feyenoord kampioen wordt. <diverse variaties>	900

#tweetoftheweek: The Mayans have a new theory that would allow us to live on for another 200 years. The world will end as soon as Feyenoord becomes champion. <several variations>[11]	
4. RT @RandomPuber: Dus 21 December vergaat de wereld? #RETWEET ALS JIJ DIT OOK BULLSHIT VINDT! <meerdere afzenders> *RT @RandomAdolescent: So December 21st the world will end? #RETWEET IF YOU TOO THINK THIS IS BULLSHIT! <several senders>*	858
5. RT @Top_moppen: De Maya's hadden het mis. Vandaag is het niet het einde van de wereld, maar slechts het einde van de week... #topmoppen <kleine variaties, meerdere afzenders> *RT @Top_jokes: The Mayans were wrong. Today isn't the end of the world, it's just the end of the week... #topjokes <small variations, several senders>*	797
6. Modernegezegden Maya 1: Hey, biertje doen? Maya 2: Ik werk aan die kalender, maar het is denk ik niet het einde van de wereld als ik ''m niet afmaak. <ook verzonden door @LachJeRot> *Modernproverbs Mayan 1: Hey, grab a beer? Mayan 2: I'm working on this calendar, but I guess it won't be the end of the world if I don't finish it. <sent by @LaughingYourAssOff as well>*	757
7. RT @SwagZinnetjes: hey wacht, de wereld vergaat niet want op andere plaatsen in de wereld is het al 21 december. <ook verzonden door RT @ohtienershit> *RT @SwagLittleSentences: hey wait, the world won't come to an end because in other places in the world it is already December 21st <also sent by @ohadolescentshit>*	687
8. RT @Mannen_Humor: Stille tocht voor #bultrug? Serieus? Doe ff normaal... De #maya''s hadden gelijk, de wereld is naar de klote. Het einde ... <variaties> *RT @Male_Humor: Silent procession for #humpback? Seriously? Get real... The #mayans were right, the world is fucked. The end... <variations>[12]*	632
9. RT @nuttelozefeiten: In Australie is het al vrijdag 21/12/2012 <veel variatie en afzenders> *RT @Uselessfacts: In Australia it is already Friday 21/12/2012 <many variations and senders>*	591
10. RT @RobScheepers: De positieve kant van dat Maya verhaal; áls de wereld vrijdag vergaat is #PSV officieel kampioen seizoen 2012/2013 <meerdere afzenders> *RT @RobScheepers: The positive side of the Mayan story; íf the world is gonna end on Friday #PSV will be official champion of season 2012/2013 <several senders>[13]*	487

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[11] Feyenoord is a soccer club from Rotterdam.

[12] A humpback whale stranded on a sandbank near Texel early December 2012, and was nicknamed Johannes (John). Attemps to free the whale failed, and after a week, he (who turned out to be a she) died. There was a lot of turmoil about the question who should be allowed to rescue the animal. After the humpback had died, some people suggested having a silent procession to commemorate the (unnecessary?) loss of life.

[13] PSV is a soccer club from Eindhoven.

The picture with the message "RT if you DO NOT believe"

The 25 most popular retweets together consist of 15,211 tweets, which makes up 29% of all the tweets about the Apocalypse. The Top Ten consists of 11,295 tweets, which is still 21% of the entire collection.

What stands out most of all - not only in this top Ten, but also in the 25 most popular retweets – are the sobriety, humour and sarcasm with which people respond to the Apocalypse. The vast majority of Twitter users do not appear to believe in impending doom whatsoever - unlike the media hype surrounding the issue might have suggested. There is only one tweet (which got retweeted 195 times) that seems to take the possibility of a global decline somewhat seriously, given the dry statement "Het is 21 december, we gaan dood. Doei..." ("It is December 21, we are going to die. Bye... ")

Most of the popular retweets do not remain completely stable: variation occurs in most cases. Popular tweets get retweeted a lot and some people do so under their own names in a slightly different wording. Fact is that tweets are especially popular when they come from accounts that have many followers: often not individuals, but communities like @Mannen_Humor (Male_Humor), @RandomPuber (RandomAdolescent), @RTditbericht (RetweetThisMessage), @DeSpeld (TheNeedle[14]), @Woordhumor (WordHumor) and @Slechte_grappen (Bad_Jokes). Still, it sometimes happens that tweets from individuals get retweeted without alteration. If such a person is a famous Dutch personality, it is

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[14] Dutch version of The Onion (USA), The Daily Mash, and The Poke (UK) with fake humorous news.

more likely that their tweet will be retweeted unchanged, with the famous person in the role of the authority. One of the best examples is the tweet from Dutch weather forecaster and media personality Helga van Leur (RTL 4): "De astronomische winter in 2012 begint op 21-12 om 12.12 uur. Misschien was dat het bizarre op de #mayakalender!" ("Astronomical winter 2012 starts on 21-12 at 12:12 p.m. Maybe this was the bizarre event on the #Mayancalendar!", retweeted unaltered 417 times).

(Micro)variation

As an example of (micro)variation, we took the "we gaan dood" ("we are going to die") tweet. From December 15 on, tweets carrying this message were circulating, containing the string "we gaan dood":

2012-12-15	Kleinemann	RT @ClaudiaJelena_: afraid voor 21 december. / we gaan dood *RT @ClaudiaJelena_: afraid of December 21st. / we are going to die*
2012-12-17	RayFr1day	omgomg, bijna 21 December. We gaan dood fissaaaaa. *omgomg, almost December 21. We are going to die partyyyyy.*
2012-12-17	BoyBelieber_NL	@538 we gaan dood 21 december .... XD *@538 we are going to die December 21st .... XD*
2012-12-20	matex123456	Morgen 21 december we gaan dood *Tomorrow December 21 we are going to die*
2012-12-20	ikbenhetkelly	Morgen 21 december we gaan dood.......;p *Tomorrow December 21 we are going to die.......;p*
2012-12-21	connorvans	OH NEEEE HET IS 21 DECEMBER, WE GAAN DOOD :(*OH NOOOO IT IS DECEMBER 21, WE ARE GOING TO DIE :(*

The stretched outcry "fissaaaa" comes from "fissa", which is urban slang for a party. The emoticons winking sticking out tongue (;p) and laughing with eyes closed (XD) both indicate that the authors do not take their own statement very seriously. However, the emoticon in the last tweet looks sad. The message that got retweeted most (129 times literally) goes like this:

2012-12-21	Becockstovers	Het is 21 december, we gaan dood. Doei. *It is December 21, we are going to die. Bye.*

A few people take over the tweet literally and turn it into their own communication. However, the following tweet only got retweeted 30 times:

2012-12-21	NiNORMAAL_	Het is 21 december, we gaan dood. Doei. *It is December 21, we are going to die. Bye.*

Here are some more examples of variations in retweets:

2012-12-21	VLDNiNO	Het is 21 december. Ik ben dood. Doei.
		It is December 21st. I am dead. Bye.
2012-12-21	maudlynn_	Hey het is 21 december 2012, we gaan allemaal dood fuck yeah
		Hey it is 21 December 2012, we are all going to die fuck yeah
2012-12-21	GelenVin	21 december we gaan dood bitches!!!!
		December 21st we are going to die bitches!!!!
2012-12-21	Frans1996	21 december!!!!!!!! Nooooo we gaan dood #IkMerkErAlOZoVeelVan
		December 21st!!!!!!! Nooooo we are going to die #ItIsSooooHappeningToMe
2012-12-21	tjaberyayo	Omg het is 21 december omg we gaan dood omg omg omg
		Omg it is December 21st omg we are going to die omg omg omg

The abbreviation "omg" stands for "oh my god". A phlegmatic response to the 'we are going to die' tweet is:

2012-12-21	2000toine	haha hele tl met het is 21 december we gaan dood doei
		haha entire tl with it is december 21 we are going to die bye

The abbreviation "tl" stands for timeline. Fiercer comments on this kind of tweets appear as well:

2012-12-20	Dream_Tastic	hou je bek over die we gaan dood op 21 december oke
		Shut up about that we are going to die on December 21st okay
2012-12-20	justinex078	21 december we gaan dood is gwn onzin.
		December 21st we are going to die is jst nonsense
2012-12-20	NERDYFRESHH	Ik heb geen eens zin om op twitter te kijken door jullie 21 december we gaan dood bullshit.
		I don't feel like looking on twitter because of your december 21st we are going to die bullshit.
2012-12-21	MarlouAJS_	Dat '' het is 21 december, we gaan dood '' is nu al tering irritant. Hjb gewoon ofzo.
		This " it is December 21st, we are going to die " is already pissing me off. Just stfu or something.

The abbreviation "gwn" stands for "gewoon" (just), and "Hjb" is short for "Hou je bek" which I translated as stfu (shut the fuck up).
The day after the alledged doomsday, the next response was inevitable:

2012-12-22	Assa_lovesyaX	Het is 22 december 2012 en we leven nog. Met jullie achterlijke ''de wereld vergaat, we gaan dood'' theorie =s
		It is 22 December 2012, and we are still alive. You and your stupid "the world is ending, we are going to die" theory =s

The emoticon "=s" probably stands for confusion or mixed feelings.

One important aspect of variation has not been discussed yet, because most tweets are not too long, and can be retweeted without loss of information. This is different with a tweet like "Hey, grab a beer?" (#6 in Top Ten). The tweet itself already contains 131 characters in Dutch (out of the 140 authorized). By retweeting, more information is added like "RT <space> @ModernProverbs <space>" (20 extra characters in Dutch). So the longer this extra string of characters is, the more information you will lose at the end of your retweet. This loss of information makes it less attractive to retweet again. Truncating the text to prevent loss of the punchline (which is quite customary) has actually hardly been done; retweets have almost always taken place using complete, original tweets (about such phenomena see also Boyd, Golder & Lotan 2010).

Belief, fear and emotions

The word cloud of the entire corpus of Apocalypse tweets shows in particular that according to the Mayans, the world will end on December 21st and that there are plenty of retweets. Telling desparate people to transfer their money into someone else's account is a motif that recurs in the word cloud as well.

Word cloud of all Dutch tweets about the Apocalypse (some of the irrelevant function words were deleted). The most prominent words form the sentence: "RT The World Ends in December".

The number of tweets with an explicit religious response is fairly small. A search for the keywords "God" and "Allah" resulted in a poor score of 0.3% (the majority of the responses came from Dutch Muslims):

STATEMENT	NUMBER
"Alleen God kent het einde"	16

"Only God knows the end"	
"Alleen Allah kent het einde" (niet de Maya's) <uiteenlopende formuleringen en varianten> *"Only Allah knows the end" (not the Mayans) <several different phrasings and variants>*	164

Even on Twitter, concerns about the End of Days are of course not completely absent, as already demonstrated by the stolid tweet: "It is December 21, we are going to die. Bye." There are people who express their genuine fear, or at least their distress. Many of these tweets are individual expressions that do not get retweeted frequently, and they total about 500. This means that we are talking about 1% of the Dutch tweets, and about a relatively small group of people. One of the more interesting and creative tweets was the following:

2012-12-15	AnneZeven	Ik denk dat Johannes het begin van de apocalyps inluidt. Vandaar ook de Bijbelse naam natuurlijk #bultrug *I think John heralds the beginning of the apocalypse. Hence the Biblical name of course #humpback*

At the beginning of December, a dying humpback whale was found on a sandbank called De Razende Bol (The Stormy Sphere) near the island of Texel, and this whale was nicknamed John. From a biblical perspective, this is a meaningful name, for John was also the author of the last book of Revelation about the Apocalypse.

In tweets, we searched for words like "bang" (fear, afraid, frightened), "angst(ig)" (afraid, fear(ful), anxiety), "zenuwachtig" (nervous), "zenuwen" (nerves), "stress" and "ongerust" (worried). Here are some typical examples of fear and worry:

2012-12-15	ElzeDerks	ik ben egt bang dat de wereld vergaat 21 december!! *I am rlly afraid that the world will end 21 december*
2012-12-16	xJetNoraa_	Pam en ik zijn bang dat op 21 december de wereld vergaat ="(*Pam and I are afraid that on December 21st the world will end ="(*
2012-12-16	xNobodyCaresBby	Ik geloof niet dat de wereld vergaat 21 December. Maar ik zie zoveel mensen er bang voor zijn. En stiekum word ik zelf dan ook wel bang .. *I don't believe that the world will end December 21st. But I see so many people being afraid. And secretly this makes me scared as well ..*
2012-12-16	liefsteliekex	Kutzooi, ben echt bang voor vrijdag 2012.. Straks vergaat de wereld echt. *Fucking shit, am really scared of Friday 2012.. Maybe the world will end for real.*
2012-12-17	Emmaya2	Was de vrijdag van deze week al voorbij! 21 december geeft mij meer stress, want als de wereld echt vergaat? Dan lacht niemand meer!!

| | | *Wishing this week's Friday was over already! December 21 gives me a lot of stress, because if the world is really gonna end? Then nobody will laugh anymore!!* |

The emoticon =''(in the second example looks sad and cries. In the next three tweets, people indicate that they got scared by a certain article on the Internet:

2012-12-16	HMFrisdrank	Ik wordt nu echt bang nu ik dit aan het lezen ben dfjaefhNDASKFKEUFEFEWKFHKEU http://t.co/8aEHRtJT *I'm getting really scared now I am reading this dfjaefhNDASKFKEUFEFEWKFHKEU http://t.co/8aEHRtJT*
2012-12-20	DOERAKx	ik zweer ik ben bestwel bang eh nadat ik dit artiekel heb gelezen http://t.co/a3bgXrrk *I'm telling ya I got really scared eh after reading this article http://t.co/a3bgXrrk*
2012-12-20	marlythatsme	http://t.co/o27k21Ew hier wordt ik toch wel bang van.. *http://t.co/o27k21Ew this makes me kinda scared..*

In all three cases, Twitter users refer to a Dutch article entitled "16 redenen waarom de wereld vergaat op 21 december 2012" ("16 reasons why the world will end on December 21, 2012"), which can still be found on the Internet: http://www.einde2012.nl/16-redenen-waarom-de-wereld-vergaat-op-21-december-2012/. The Internet article not only mentions the end of the Mayan calendar, but also examines violent solar storms, the reversal of the magnetic poles, a collision with Planet X and other doomsday scenarios.
The final four examples we would like to present here:

2012-12-16	KellySky_	ik geloof niet in de apocalyps, maar ben toch wel ''n beetje nerveus voor vrijdag op de een of andere manier xd *I don't believe in the apocalypse, but still one way or another I am a little nervous for Friday xd*
2012-12-18	MeiaLinde	21 december ben ik vet zenuwachtig het idee dat elke seconde de wereld kan gaan trillen enzo hahaha *21 December I am a nervous wreck the idea that any second the world can start shaking and such hahaha*
2012-12-20	jenniferbonhofx	Ben bang dat wereld vergaat op 21 december *Am afraid the world will end on 21 December*
2012-12-20	xNiallxxx	Stiekem ben ik toch wel bang dat de wereld vergaat op 21 decemberŠ! *Secretly I am afraid that the world will come to an end on 21 December Š!*

Emoticon xd is the diminutive form of XD that stands for loud laughter with eyes closed: so in this case there is some mild laughing going on. The meaning of Š we have not solved yet. One may wonder about the age of all these anxious Twitter users. Judging from the thirteen examples we gave, we are dealing with ten teenage girls, two teenage boys, and one undetermined person that has closed his or her account in the meantime.

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The spectrum of emotions on the total corpus of Dutch tweets about the Apocalypse can be analyzed using the program LIWC: *Linguistic Inquiry and Word Count*.[15]

Affective processes	9.39		
Positive emotion	0.25	Negative emotion	0.08
Positive feeling	1.67	Anxiety	0.08
Optimism	0.85	Anger	0.82
		Sadness	0.07
Past	0.86	Religion	1.96
Present	9.15	Death	0.43
Future	1.20	Swear	0.07

Sentiment analysis of LIWC shows that affection and positive emotions on Twitter predominate, that the tweets mainly radiate optimism, and that anxiety, anger and sadness play a minor role. Compared to other blogs and to a representative number of random tweets, our Apocalypse tweets prove to be fairly moderate, both in a positive and negative sense. In other words: emotions never run high. Most tweets dwell on the present and then the future, which represents an average distribution for blogs and random tweets. Verbal abuse is infrequent. Death is not a dominant issue, though it is above average compared to blogs and random tweets. In the LIWC analysis of Apocalypse Twitter messages, feelings of faith stand out the most. Compared with a score of 0.34 for an average blog, and even 0.07 for a control group of random tweets, a score of 1.96 can be called high. In this case, it does not concern deep-rooted religious beliefs, but the fact that people often say they do not believe an apocalypse to be imminent. All in all, however, one should never confuse opinions and sentiments on Twitter with the opinion of an entire nation: Twitter is not the people.[16]

Conclusion
Looking at the Dutch tweets from the two weeks around 21 December 2012, we can conclude that only a very small percentage (1 %) of the Dutch people on Twitter had real concerns about the supposed upcoming of the End of Times. Judging from their profiles, we are dealing with adolescents, mainly girls. The subject of the Apocalypse produced a lot of short messaging on Twitter (over 50,000 tweets), peaking at the 20th and 21st of December – that is: the day before and the day itself – but the general trend was that the Twitter users took the prediction of the End of Days with a grain of salt (quite unlike the predominantly indignant and appalled reactions on the product rumours about WhatsApp and pork fat). In the tweets, positive emotions and belief in a good outcome dominated. New Age believers in this profane Apocalypse could expect to be faced with humor, sarcasm and mockery. Serious religious responses on Twitter were negligible –Muslims responded more often than Christians. In a

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[15] About this program Tausczik & Pennebaker 2010 (p. 27: LIWC is being pronounced as "Luke"). and the Dutch version Zijlstra, Van Middendorp, Van Meerveld & Geenen 2005.
[16] See Mustafaraj, Finn, Whitlock & Metaxas 2011 who for instance distinguish between the "vocal minority" and the "silent majority"; furthermore Duits 2013; Scheele 2014 (only 13% of the Dutch people online use Twitter; only 36% of them are between 25 and 44 years old).

sentiment analysis, the tweets' high score on religion is mainly due to the frequent lack of belief in the upcoming destruction of the world. In the end, Twitter showed that the End of Times on the 21st of December 2012 in the Netherlands was ultimately a media hype rather than a dreaded belief event.

Literature

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